FORESTRY & TIMBER NEWS

February 2017 Issue 79

RENAISSANCE FOR UK PLANTING

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WELCOME

We hope you enjoy the new look of FTN. With more pages we aim to expand further the breadth and quality of its content while adopting a look-and-feel that truly represents a modern and professional forestry and timber sector.

We always welcome your views on the magazine, please send us your feedback by email or through our website.

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Building our political links

STUART GOODALL CHIEF EXECUTIVE, CONFOR

When the Conservatives pledged to plant 11m trees in England between 2015 and 2020 I shrugged. "So what? Piece of cake!" And then it was revealed last year that England had only managed 700ha in 2015-16 - less than 60ha a month!

We calculated, at that rate, it would be 2027 before the target was reached – and issued a press release which was picked up by The Independent and others. Amusingly The Independent ran the story with a picture of the Queen planting a tree – just 10,999,999 to go, Your Majesty.

Maybe that's why she fell ill with such a bad cold over the 'festive' period, too much time spent trying to make up for the failure of her government...

Anyway, 11m trees, or about 5,000ha in old money, is a modest ambition that a Forestry Commission focused on meeting its one government target should be able to deliver easily. I appreciate they also have to deal with Natural England and the Rural Payments Agency, but then perhaps they should fight to run a stand-alone scheme that isn't linked to CAP? This is how the £19.2m woodland carbon fund will operate.

I'm all for joined up policy making, but that doesn't mean that what are crumbs in Treasury terms should be administered through a ludicrously complex, inter-agency process.

Perhaps that's the 'British way' of doing things? Certainly, Caroline Spelman, MP (ex-Defra Secretary of State at the time of the abortive sell-off) was quick to say at a briefing on Brexit that we shouldn't assume red-tape will be cut when we leave the EU. As she reminded her audience, the UK invented bureaucracy.

Cabinet Secretary Fergus Ewing, MSP in Scotland is a breath of fresh air. His approach is to make things happen; refreshing if his agenda aligns with yours. He also has the tenacity and experience to push things through – questioning process and paperwork. I accept that there should be accountability for public funds, but I also see unnecessary process that stifles success and a loss of focus on outcomes.

Mr Ewing commissioned a report from ex-chief planner Jim Mackinnon which should drive further improvements to the grants process in Scotland.

I recently met with the Welsh Cabinet Secretary Lesley Griffiths, AM at Clifford Jones Timber. Ms Griffiths came across as sharp and business-like, though whether she can deliver trees in the ground is still to be seen. At least she, and the ministers in the other countries have grasped one point – that planting and harvesting trees to make products should be at the heart of forestry. A message that Confor has been pushing hard for many years.

Changing public policy or improving the way grant schemes operate is a slow and often frustrating business, and takes up a lot of Confor staff time, but at least we're seeing real progress.

Looking back, 2016 was not a vintage year for tree planting, but I am optimistic that 2017 will be better.

Pressure mounts to reverse 'disastrous' planting record

WORK BY CONFOR IS STARTING TO MAKE AN IMPACT - BUT MORE NEEDS TO BE DONE, ESPECIALLY ACROSS ENGLAND AND WALES

Even though 2016 was a post-CAP revision year when planting traditionally falls away it was still a disappointing one, made worse by disastrous figures for England and Wales. In a new modern-day low, England planted just 700 hectares with softwoods posted missing as usual.

This abject failure brought condemnation from Confor and others through the mainstream media and questions in Westminster, leading to a debate and inquiry secured by MPs working with Confor. Under pressure, forestry Minister Dr Thérèse Coffey has stated that it is still possible to achieve the Government's target of 11m trees during the lifetime of the 2015-2020 Parliament.

Giving evidence to the Environment, Food and Rural Affairs committee's forestry inquiry in January, Dr Coffey said: "I'm confident we will be planting more trees and comfortably hit the target we set ourselves by the end of this parliament."

Many in the profession question whether there is enough time to turn things around by 2020, but there are positive signs following the introduction of the Woodland Creation Planning Grant and the £19.2million Woodland Carbon Fund - both following lobbying by Confor.

Dr Coffey said she hoped these initiatives would bring forward more large planting proposals, and specifically mentioned Doddington North Moor in Northumberland, where a proposal is moving forward to plant 600,000 trees in the largest productive planting scheme in England in 20 years.

The Minister also told the inquiry: "We have seen a drop since we moved to the new Countryside Stewardship scheme, introduced last year - but in the second round of applications, we have seen an increase."

She said IT problems at the Rural Payments Agency were being addressed: "In terms of processing grants, I expect to see a step change by the end of this quarter." Dealing with the bureaucracy around environmental regulations would take longer, she admitted, while stressing that progress was being made.

In Scotland, planting looks set to hit a recent high of around 9000ha in 2017 – a figure given by Head of Forestry Commission Scotland Jo O'Hara in evidence to a Scottish Parliament committee in late 2016. The same committee is examining the need for more funding for tree planting, which has already been increased from £36m to £40m in the recent Scottish Government budget following evidence given by Confor.

Much of the increase in planting applications and, in particular the higher percentage of softwood planting coming forward, can be traced back to work by Confor to improve the operation of the grant scheme, including tackling inappropriate opposition to schemes from third parties and unbalanced incentives. There is still work to do to meet (and exceed) the 10,000ha a year target, and to secure planting of all types across all of Scotland, but the situation has been transformed from before.

Cabinet support

Confor hopes to be aided in this by the appointment of Cabinet Secretary for Rural Economy and Connectivity Fergus Ewing who has put forestry at the heart of his policy programme. Following a suggestion by Confor, he commissioned a report by former Chief Planner Jim Mackinnon, which makes practical recommendations to streamline the application process, including: giving local Forestry Commission offices more responsibility to approve lower value applications; earlier engagement between tree-planting businesses and communities; and a dedicated national Forestry Commission Scotland team to

Continued on p8

> I'm confident we will comfortably hit the target we set ourselves by the end of this Parliament.
>
> **Dr Thérèse Coffey**

Confor hopes to be aided in this by the appointment of Cabinet Secretary for Rural Economy and Connectivity Fergus Ewing

THE SOFTWOOD DILEMMA:
RESTOCKING AND NEW PLANTING OF CONIFERS IN THE UK

A close look at the figures in the FC Canopy Cover Report raise serious concerns about the sustainability of UK planting: productive conifer forests are harvested to supply markets with valuable softwood, which is the bread and butter of the UK forestry and timber sector. However, felled areas are reallocated to different land uses or forestry types and are not fully restocked with productive softwood. New planting of conifers is far from sustainable levels and cannot make up for the loss in restocking. This is a serious threat for future supply of timber in the UK and depresses the sector's enthusiasm for investment.

In this infographic, we use a hypothetical 100 ha forest lot to show worrying trends that become evident from planting figures.

RESTOCKING

On average across the UK 100 hectares of productive conifers would be made up of approximately 81% Sitka spruce and 19% other conifers. Some of that forest might be planted on deep peat, and some of it might be PAWS. After harvesting, the 100 hectares are not replanted with the same proportion of productive conifers. This happens for a number of reasons, such as environmental or landscape considerations or grant priorities. 10 years after felling, only 51 out of 100 ha have been replanted with equivalent productive conifers. The productive area for softwood has effectively been halved.

100 HECTARES

51 HECTARES

23 HECTARES WOODLAND IN TRANSITION

18 HECTARES

8 HECTARES OPEN GROUND

NEW PLANTING

However, future supply of softwoods needs to be guaranteed. To what extent is new planting making up for the loss of restocking?

77% **23%**

Over the last five years, 52,200ha of NEW forest have been planted, only 12,100 of which are conifers.

SCOTLAND

69% **31%**

ENGLAND

99% **1%**

WALES

86% **14%**

N. IRELAND

100% **0%**

SOFTWOOD IS THE TIMBER INDUSTRIES' BREAD AND BUTTER.

A simplified visualisation of FC Canopy Cover Report data

All data sourced from canopy cover report and cover the period 2011-2016.
Exact New Planting data are as follows: UK: 52,200 ha (of which 11,100 conifers); England: 11,600 ha (of which 11,500 conifers); Scotland: 36,500 ha (of which 25,100 conifers); Wales: 2,800 ha (of which 2,400 conifers); Northern Ireland: 1,200 ha (of which no conifers)

Continued from p6
deal with complex proposals including all projects where Environmental Impact Assessments are required.

Mr Ewing has accepted all the proposals and called for an update in the spring - and the practical recommendations should start to have a real impact in late 2017 and especially the planting season of early 2018.

Ian Gambles, Head of Forestry Commission England, told the EFRA inquiry in late 2016 that he was following developments in Scotland with interest – an approach encouraged by Confor as only around 1.3 million trees have been planted in the last 18 months in England, the same number as were planted at the Jerah site in central Scotland in five months.

Chris Davies MP, Chair of the All-Party Parliamentary Group on Forestry, has highlighted the danger of a timber gap from the 2030s, where the drop-off in softwood planting sees supply fall short of demand.

In Wales, the new grant scheme has restarted planting and it is attractive to both softwood and hardwood planting. However, the attitude of agencies and stakeholders is still largely negative to planting, especially of softwoods, and as well as securing political support Confor is seeking to build partnerships with other stakeholders to secure a significant increase in planting levels.

In Northern Ireland, there is also a favourable new scheme and an interest in planting productive forests, but making the process attractive to applicants and securing interest from the farming community is a continuing challenge.

At the start of 2017, there is real hope of a stronger future – especially with the whole forestry sector pulling in the same direction. Beccy Speight, Chief Executive of the Woodland Trust, told the EFRA inquiry that there needed to be more woodland of all types, while Rebecca Pow MP, co-chair of the All-Party Parliamentary Group on Ancient Woodland & Veteran Trees, said there was much greater potential to grow the timber industry and expressed concern about future supply.

2030s

DEMAND FOR SOFTWOOD IS FORECAST TO EXCEED UK SUPPLY

RESOURCES ONLINE

Woodland Carbon Fund
www.forestry.gov.uk/england-wcf

Woodland Creation Planning Grant
(part of Forestry Innovation Fund)
www.forestry.gov.uk/forestry/beeh-a4lgde

MacKinnon report can be viewed or downloaded from the Confor website
www.confor.org.uk/resources/publications/reference-publications/

A bright future for forestry after Brexit

Confor has started work to develop a detailed position on Brexit, with the aim of pursuing an integrated land use policy and funding framework for the UK with forestry at its heart.

In 2016, Confor produced discussion papers before and after the UK vote to leave the European Union, following up with broad recommendations for the future in *A Thriving Forestry and Timber Sector in a post-Brexit World*.

Eleanor Harris has been brought on board to work with the Confor team to develop its vision of "a truly integrated rural policy and funding framework", which was at the heart of the Thriving Future document.

Stuart Goodall, Confor's Chief Executive, said: "Throughout this debate, Confor has always tried to look ahead at the emerging policy debate for rural areas. We have a vision for forestry, and we want to present that vision in a broader picture of future integrated land use.

"Confor has already worked closely with organisations like The Woodland Trust and CLA and will continue discussions with them and other key organisations interested in rural land use. We want Confor to be right at the heart of that debate."

Although the shape of future rural policy and funding has not yet emerged, the government has made it very clear that it the Common Agricultural Policy (CAP) will disappear and that any new support system is likely to be very different from the current set-up.

"We envisage a mixed future policy, based around developing the supply chain and market demand, Natural Capital outcomes and public subsidy with a focus on delivering public benefit," said Mr Goodall. "We know forestry can deliver in all these areas and we are working on the specific detail of how the post-Brexit regime will look."

Confor will continue detailed engagement with its members, the wider forestry and wood processing sector and broader rural land use sector - through events, political engagement including the All-Party Parliamentary Group on Forestry at Westminster and evidence-based publications.

Beyond the big issue of post-Brexit policy and funding, Confor will continue associated work to develop its policy in other important affected by the UK's decision to leave the EU - in areas like plant health, access to seasonal labour and the future shape of environmental legislation.

RESOURCES ONLINE

A Thriving Forestry and Timber Sector in a post-Brexit World can be viewed and downloaded from www.confor.org.uk/Resources/Publications/Confor publications

The Confor approach involves three key strands:

WHY
should forestry play a more central role? This will involve building on Confor's successful work in 2016 to explain how forestry and timber can deliver sustainable solutions to a wide range of 21st century problems by: delivering rural jobs and investment; reducing the impacts of both flooding and climate change; providing habitats for threatened wildlife; providing the raw material (timber) to help address the housebuilding crisis.

WHAT
is the ultimate objective, the outcomes that would deliver for both the forestry sector and rural land use as a whole? This will include realistic annual planting targets which, in the case of England, will set a clear and evidence-based vision to reverse the modern tree planting low of 2016.

HOW
can Confor build the relationships with all the other organisations with an interest in future rural land use policy and funding?

Confor builds up political understanding

FOR POLITICIANS, VISITING ONE OF OUR MEMBERS' BUSINESSES MEANS MORE THAN 1000 WORDS

Confor continues to step up its work to strengthen links between members and politicians, to enhance the level of understanding of the forestry and wood sector across the UK.

Visits to Confor members have been arranged in recent months in England, Scotland and Wales, with further engagement planned.

In Wales, Cabinet Secretary for Environment and Rural Affairs Lesley Griffiths recently visited Clifford Jones Timber in Ruthin, North Wales, after the company highlighted the desperate need for new planting to sustain timber processing businesses in Wales.

Confor Chief Executive Stuart Goodall, who participated in the visit, said: "Confor has been very effective at getting over the importance of the forestry and timber sector through its evidence-based documents, media work and political engagement. However, there is nothing more effective than getting a politician onto a site and letting them see how businesses operate, especially significant local employers like Clifford Jones Timber."

Peter Chapman MSP, the Conservative spokesperson on rural affairs in the Scottish Parliament, met with Mr Goodall at Michael Bruce's Glen Tanar Estate and James Jones & Sons' Burnroot sawmill in Aberdeenshire in October 2016. The visit was followed by filming with BBC's Landward programme which showed the growing significance of forestry and timber businesses to the rural economy.

"When Peter Chapman, who is from a farming background, visited Glen Tanar and Burnroot, he immediately saw the link between forestry and timber businesses - and the enormous value of the sector to rural communities like Aberdeenshire," said Mr Goodall. "He was also extremely impressed by the hi-tech nature of modern wood processing."

In England, visits are lined up for Roberta Blackman-Woods, MP for Durham City, to meet Taylor-Made Timber Products at its base in Sherburn Hill, Durham, while Conservative MP for Wyre and Preston North, Ben Wallace, is to visit a Tubex site in his constituency.

Mr Goodall, who will accompany both Ben Wallace and Roberta Blackman-Woods on their visits, added: "We have made real inroads in England in terms of getting forestry and timber higher up the political agenda - and we need to build on that in 2017 by ensuring we get lots more trees in the ground. Getting MPs on site to see real forestry and timber operations is a major part of understanding why that is important to the sector and good for society as a whole."

Confor is also working with Anne-Marie Trevelyan, the knowledgeable Vice-Chair of the All-Party Parliamentary Group on Forestry, to arrange a visit to the proposed Doddington North site, near Wooler, part of her constituency of Berwick-upon-Tweed.

"If approved, Doddington will be the biggest productive forestry site in England for two decades," said Mr Goodall.

"Anne-Marie Trevelyan and North-East MEP Paul Brannen both see the link between the new planting and local jobs - at sites like A&J Scott sawmill - as well as flood prevention, climate change mitigation and habitats for threatened wildlife."

A&J Scott was one of many forestry and wood processing companies mentioned by MPs from across the UK at the Westminster Hall debate on forestry in December, for which Confor provided briefing to a number of MPs.

> There is nothing more effective than getting a politician onto a site and letting them see how businesses operate.
>
> **Stuart Goodall**

Confor is keen to build closer links between its members and politicians at local level and is happy to help to help develop relationships. If you would like help to build closer links with your local MP, MSP, AM or MLA, please contact your country manager.

Confor took a table at the London Scottish Conservative Club's Burns dinner on January 24. Guests Chris Davies MP, Anne-Marie Trevelyan MP and Danny Kinihan MP appreciated the opportunity to speak to Confor members, and learn more about the sector. The evening also provided an opportunity to speak with a range of politicians, including rising star of the Conservative Party, Ruth Davidson MSP.

"I have now returned from maternity leave. I would like to thank Jez Ralph for his role in manning the ship for the last six months through, what was, a particularly busy period for Confor. It's good to be back and I'm looking forward to the inevitable challenges ahead. Wishing you all a productive and prosperous New Year."

Caroline Harrison, Confor's National Manager for England

Important: change of date for Confor Woodland Show 2017

The date for the Confor Woodland Show 2017 has changed to 7/8 September 2017. We apologise for the inconvenience. Exhibitor bookings are open. Take advantage of early bird rates when booking before 31 March 2017.

Note that the dates on booking forms and information sheets may not have been updated yet.

The Confor year planner, which was sent out in December, includes a Confor Woodland Show advert; it was produced prior to the change of date and the advert is therefore NOT up to date.

www.conforwoodlandshow.org.uk

New year brings changes for biomass sector

Biomass Suppliers List suppliers will have to pay to have authorised fuels on the list from 01 January 2017. You will have be sent an email in January with instructions on how to make the payment. Further information on the charges, including how much and when you will need to pay is available on the Confor website.

Meanwhile, a scheme to protect against imported threats to tree health has come into force on 01 January 2017. The Statutory Notification Scheme for importing solid woodfuel (firewood) will require importers bringing certain types of firewood into England and Scotland from outside the UK to provide the Forestry Commission with at least three days' prior notification of its arrival if it is coming by sea, road or rail, and four hours' notice if it is arriving by air. The Welsh Assembly Government is expected to introduce a similar regulation.

More information on the firewood imports notification scheme can be found on www.forestry.gov.uk/firewoodnotification

Blight outbreak confirmed

An outbreak of sweet chestnut blight, which is caused by the fungus *Cryphonectria parasitica*, has been confirmed at two sites close to each other near Exeter, Devon. *C. parasitica* is a quarantine organism, so the following measures have been taken:

- An intensive survey of sweet chestnut (*Castanea sativa*) trees within a 1km radius of the affected trees, no further signs found.
- A targeted survey of sweet chestnut trees within 5km, no further signs found.
- An inspection of sweet chestnut plants which were supplied to other planting sites from the same batch of plants by the nursery which supplied plants to one of the affected sites.

FC are issuing plant health notices prohibiting the movement of all sweet chestnut and oak material from woodland and trading sites within the 5km zone until further notice. Although oak trees suffer very little damage if they are infected by the fungus, the fungus can be spread from them, so restrictions on movements of oak material are also required as a precaution.

Further information and a symptoms factsheet and pest alert are available at www.forestry.gov.uk/chestnutblight.

The winds of change

TIM LIDDON

Significant changes are nothing new in forestry; think of Maggie Thatcher's government in the 80ies effectively prohibiting Forestry Commission to carry out new planting, suggesting that it was the job of the private sector. Then there was the 1988 Lawson budget removal of schedule D taxation from forestry. But these days, change is happening more rapidly and constantly. My ex MD Matthew Rivers gave Tilhill senior managers the chance to challenge the Board. As a senior manager I was then apprehensive as to what the board were going to ask us to do! Matthew came up with just one thing – "embrace change in our lives as it is here to stay". That was the first time I realised that change was usually good.

There is significant change in our industry just now – the balance between the private and state sectors is changing – conifer timber production is a good example.

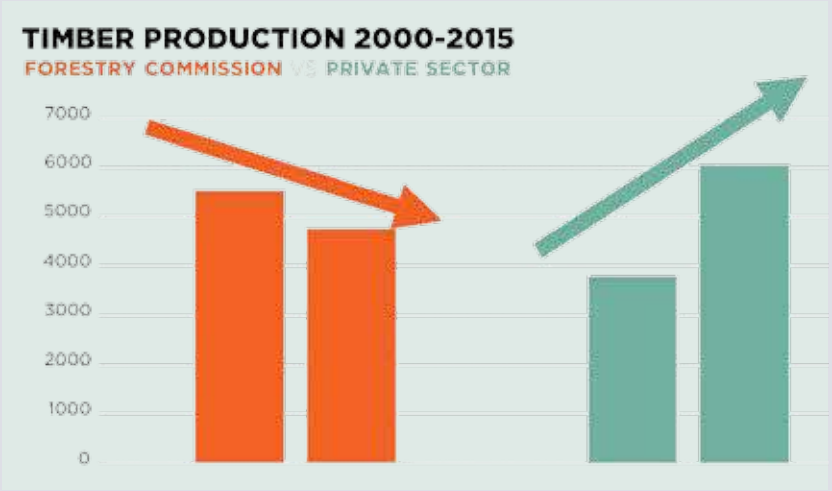
This has significant implications in terms of operational activity, with the private sector having now higher levels of felling, restocking and new planting. From the 'Forestry Facts and Figures 2015/16' for the UK the state sector have planted 700ha and the private sector 4800ha – in fact I would suggest that the private sector will have carried out more or less all the new planting and that is where the expertise – operationally and cost efficiencies - lies. This then creates tensions when in the MacKinnon report we read that over 60% of Woodland Officers are not chartered and over 25% have been in post for less than three years.

Positive change comes when issues are recognised early – we have seen a great example of collaboration in the formation of the Conifer Tree Breeding Co-operative where Forest Research, private and FC nurseries and seed collectors, together with forest management companies and end users have grabbed the initiative to secure the investment that the public purse has invested in conifer and in particular Sitka spruce breeding. New ways of doing things are not always bad!

More change needs to happen to ensure public assets that have been created for the nation are managed for the nation. FC seed orchards have traditionally provided most of the seed for restocking. In 2003 FC stated that "Our plant and seed supply branch will make at least 50% of all the marketable improved Sitka spruce seed available to the nursery trade from each collection year". We hear that this does not now appear to be happening. Perhaps it is time to put these assets into an independent body to ensure that they are managed to optimise seed production for the nation so that despite devolution all timber producers can continue to produce and expand the nation's assets which delivers nearly £2bn to the economy every year, and sustains almost 80,000 jobs.

Embrace in change and let's grow the industry and overcome the challenges and grab the opportunities ahead.

Tim Liddon is Forestry Director at Tilhill Forestry Ltd



> More change needs to happen to ensure public assets that have been created for the nation are managed for the nation.

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Nursery resilience and

HOW ARE THE TWO CONNECTED? **MATT HOMMEL** TAKES A CLOSER LOOK AT A HOT TOPIC BEING DISCUSSED AT MANY LEVELS

The advice from forest pathologists is unequivocal; imported trees pose a risk to the UK's biosecurity. This is a clear message which calls for a simple solution: rule out imports and grow all our trees in the UK.

Whether, or not, this over-simplistic strategy is the answer, the reality is that market factors affect nursery businesses so profoundly that we cannot simply discuss the short-term availability of home-grown stock. We must also question the long-term survival of our domestic growing capacity and the implications its loss would have on the nation's biosecurity – nursery resilience.

A well-known challenge

In terms of forest establishment, market stability comes from access to a stable, predictable planting grant. Growers need to predict demand years ahead, in order to collect seed and sow the crop; an investment in cash and assets which, once made, is locked in and must deliver commercial return.

In today's complex and fast changing world, policy needs to be nimble to survive. Grant schemes necessarily change and adapt to deliver policy but changes are often sudden, creating acute practical difficulties for nurseries. Market hesitation, postponement of planting, cancelled orders, or last minute changes to plant specifications can all occur at a critical points in the seasonal cycle sometimes with severe and lasting impacts on a nursery's trading performance.

'Grow only what you know you can sell' is a strategy applied in varying degrees by nurseries to cope with this pressure. The overall effect is that if demand suddenly increases, indigenous growers have insufficient home-grown stock online leaving no alternative but reactive sourcing outside the UK.

So what's the solution?

1. Buy only from nurseries who grow and source responsibly – a simple concept but market failure favours the unscrupulous.
2. Find a way to stabilise the grant long-term or provide an alternative to give landowners the confidence to plant and plan their planting, not just for the next couple of years, for the next 20.
3. Build on the Phytothreats model, to strengthen the link between research and industry allowing pathologists to work with growers to gather live data and provide a secure and supported first line of defence against unknown pathogens.

What about the unscrupulous?

4. Develop and incentivise a collaborative approach to assuring continuous improvement in quality and traceability across the growing sector.
5. Lead the way by specifying and valuing these attributes in public and private sector procurement - favour competent growers acting professionally and select against those that aren't. Beware of selecting only on price based on poorly defined specifications.

At the moment, nurseries shoulder all the risk of growing trees in the face of uncertainty, whilst also facing the buckshot end of the legislation created to combat emerging disease. If we are to increase our home gown capacity and make such controls effective we need to first address this fragility by collaboration, working together to share the risk. Healthy industry, Healthy trees

Matt Hommel MSc MICFor is managing director of Christie-Elite Nurseries Ltd

Improving nursery resilience against threats from *Phytophthora*

Phytothreats workshop, York, 06 October, 2016

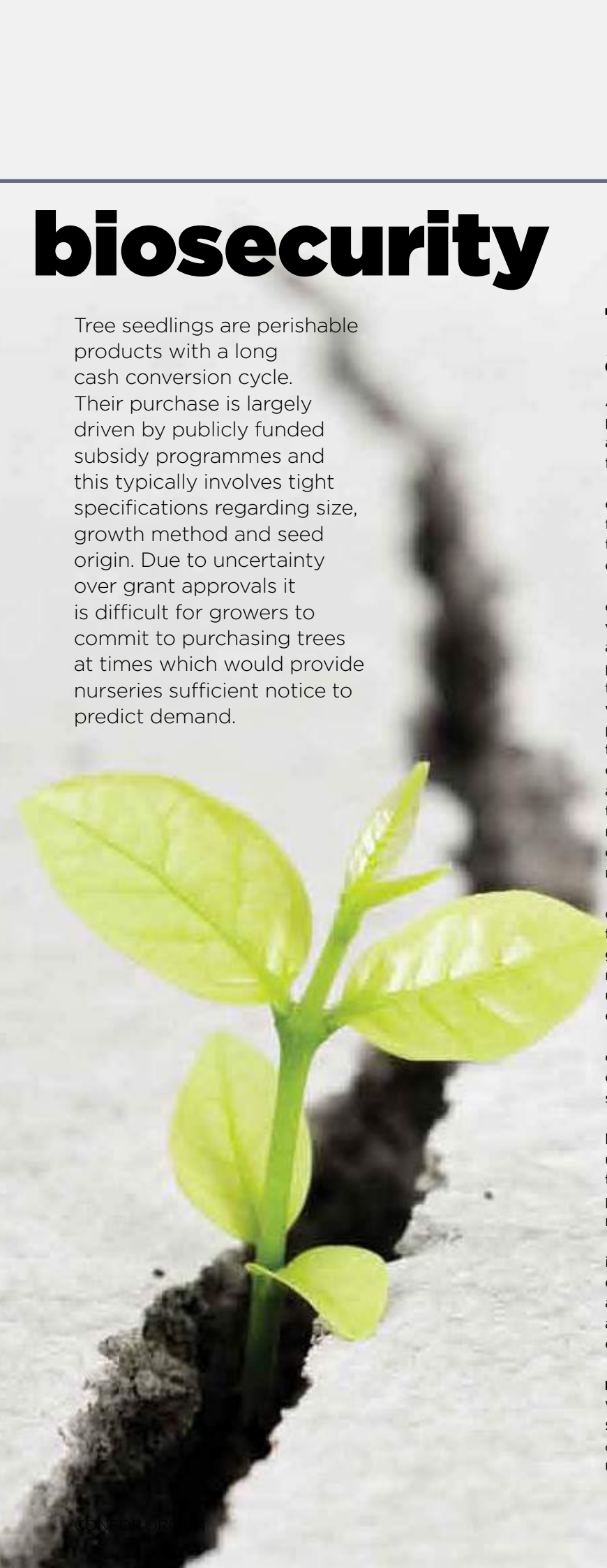
The objective for the meeting was scene setting and building relationships, bringing people together from a range of backgrounds to share opinions on managing disease risks, not only to trade but also to our forests and woodlands as a result of spread within the trade.

A panel of speakers from the forestry and landscape sectors gave their views of what they see as being the main threats to their businesses and across the trade. This set the platform for much useful discussion which carried on throughout the day.

The afternoon session focused on the feasibility of an accreditation scheme designed to reduce *phytophthora* problems in the industry, and how it could possibly work in practice. Susan Frankel from the US Forest Service, California gave an informative presentation citing some of the devastating experiences in the USA from the spread of *phytophthora* infections and explaining the Systems Approach to Nursery Certification Scheme (SANC), in operation for the nursery industry in the US. A presentation by Giles Hardy, Murdoch University followed, giving an explanation of the Nursery Industry Accreditation Scheme in Australia (NIASA) and the various horticultural and biosecurity measures involved to help reduce risks there.

biosecurity

Tree seedlings are perishable products with a long cash conversion cycle. Their purchase is largely driven by publicly funded subsidy programmes and this typically involves tight specifications regarding size, growth method and seed origin. Due to uncertainty over grant approvals it is difficult for growers to commit to purchasing trees at times which would provide nurseries sufficient notice to predict demand.



The dilemma of predicting and meeting demand

A recent paper funded by the Forestry Commission, forming part of a wider research project into forest genetic resources and their deployment, under climate change looked in further detail at this range of issues:

Tree seedlings are perishable products with a long cash conversion cycle. Their purchase is largely driven by publicly funded subsidy programmes and this typically involves tight specifications regarding size, growth method and seed origin.

The main problem nurseries encountered was that consumer confidence was typically very low, such that it was very difficult for customers to commit to purchasing trees at times which would provide nurseries sufficient notice to predict demand. The nurseries normally received orders for the season they were already in, often with no more than two weeks' notice, despite the fact that it can take 1-3 years to produce a tree seedling for planting in the field. This is due to uncertainty over grant approvals caused by bureaucratic difficulties in the processing of applications. Delays in grant approval are commonplace but are worsened by the fact that priorities change on a regular basis (ie every time a new grant scheme is introduced). This means that it is very difficult for nurseries to accurately predict what will be required.

This situation means that when nurseries under-estimate demand, trading among nurseries must take place. Many of the nurseries contacted suggested that undersupply of a given product was often synchronised across the domestic nursery sector, meaning that when a given species was unavailable in one place, it was likely to be unavailable elsewhere in GB too.

In this situation, the only remaining option to supply customers is to discover whether large nurseries in other countries can supply the product and to import the planting stock from overseas.

Great Britain is very lucky to have an engaged and highly knowledgeable forest nursery sector yet their work is largely unheralded. Nurseries in the private sector are exposed to the highest level of risk in the supply chain. Their ability to produce planting stock is crucial if planting targets are to be met and is clearly in the public interest.

There does not currently seem to be a lack of capacity in the domestic nursery sector. The problems they face are driven by an unstable policy context at a national level and, at the level of individual schemes, by uncertainty over grant approvals, which make it excessively difficult to predict demand at the time of sowing.

Paper citation:

Whittet, R., Cottrell, J., Cavers, S., Pecurul, M and Ennos, R. 2016. Supplying trees in an era of environmental uncertainty: Identifying challenges faced by the forest nursery sector in Great Britain. Land Use Policy 58, 415-426.

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FOREST MANAGEMENT

Growing productive uplands hardwoods

Formative pruning for timber

Continuous cover forestry

Research in tree and wood properties

Making hardwoods work harder for us

DR. SCOTT MCG. WILSON ARGUES IN SUPPORT OF QUALITY HARDWOODS IN THE UPLANDS

By contrast with their distinguished history on lowland estates in Britain, hardwoods have traditionally played a minor role for timber in the uplands. Many argue this is due to climatic and soil limitations. However, oak has proven capable of producing valuable timber, when managed appropriately on suitable upland sites. Some estates have also succeeded with alder, ash, beech, birch, elm and sycamore. Since 1985, upland hardwood plantings have predominantly been for biodiversity and amenity, with limited aspiration to timber. Many have been stocked at 1100-1600 stems/ ha, making tending for timber difficult and expensive.

Reasons to emphasise productive upland hardwoods

I argue that we should now change our approach to upland hardwoods, viewing them as a valuable, productive resource. With ongoing processes of plantation restructuring, native and riparian woodland expansion and PAWS restoration over thirty years, we are allocating an increasing proportion of upland growing space to hardwoods - 10-15% in most forest plans, frequently 20-30%. Grant scheme vicissitudes (including likely consequences of Brexit), behove us to create and manage financially self-sustaining woodlands along the lines of traditional estate forestry. With careful attention to establishment and silviculture we can produce valuable hardwood timber, while also delivering habitats for biodiversity, enhancing landscape amenity, protecting soil and freshwater or mitigating floods. It is a myth that active hardwood management is impractical or compromises non-timber benefits of woodlands.

Continued on p20

Hardwood establishment under birch canopy, Aberdeenshire

Fine upland beech stand, Moray

Future Trees Trust breeding orchard of silver birch, Northern Research Station

CONTEXTS FOR PRODUCTIVE HARDWOODS IN THE UPLANDS

Opportunities arise for production of hardwood timber in several upland forest management contexts:

Mature hardwood stands - including ancient semi-natural woodlands and longer-established plantations, where selective silviculture can be applied to standing crops, allowing subsequent natural regeneration. On designated sites, practices will need to be agreed with conservation authorities, but this should not become an "obstacle to progress". Few woodlands benefit ecologically from lack of proper management!

Recently established hardwood stands - particularly on better, more accessible sites, where initial stocking exceeds 3000 stems/ ha or can be raised toward that level by reinforcement planting or infill regeneration. This applies even where initial objectives of establishment were habitat restoration, biodiversity, landscape, carbon sequestration or flood mitigation - we need to view these as "multi-purpose" forestry. While the "first crop" may be mainly of woodfuels, later crops can be of good timber.

PAWS restoration sites - these form part of many maturing plantation forests and frequently occupy much better ground where natural hardwoods persisted. One only need consider Loch Lomondside and the Great Glen, where sites once supported good oak coppice and fine Douglas fir has grown since the 1920's. Withdrawing these areas from the "production working circle" is unnecessary. Retention of a minority of premium conifers should be an option, alongside well-managed new hardwood crops.

Plantation restructuring restocks - these include "non-PAWS" areas within upland plantations where hardwoods are planted or naturally regenerated as part of planned coupe-wise restructuring. Many examples are along watercourses, forest margins, wayleaves or access routes. While some pose challenges for timber production - eg exposure, steep slopes or soft soils - none should defeat skilled professional foresters. In future, areas for hardwood restocks should be selected with quality timber in mind.

ESSENTIAL CONSIDERATIONS FOR PRODUCTIVE HARDWOOD ESTABLISHMENT AND SILVICULTURE

To grow productive hardwoods successfully in the uplands, several aspects are essential:

Choice of suitable sites - these will generally lie below 300m asl, with reasonable terrain, access for timber extraction and upland brown earth, surface water gley or mildly podzolic soils. Hardwood options on peaty soils are typically more restricted.

Choice of tree species suited to the site, as determined by site classification (eg FC Ecological Site Classification (ESC) or Prof. Mark Anderson's "The Selection of Tree Species"). Where timber is the main objective, site suitability, rather than nativeness, is the priority. Current marketability of their timbers should be considered, but should not dictate species selection - good timber usually finds a future market. Hardwood mixtures often prove more resilient than extensive single species plantations.

Choice of provenances suited to ecological site conditions, having the proven potential to produce stems of superior timber form (eg outputs of well-planned scientific tree improvement such as the FR and Future Trees Trust programmes). Again, where timber is the objective, selected provenance, rather than localness, is the priority, unless work is in or adjacent to ancient semi-natural woodlands. Planting stock may have to be contract-ordered from nurseries several years prior to planting.

Determination of initial stocking density capable of producing a crop of hardwood trees with valuable stem form. This typically lies in the range 3000-5000 stems/ ha. This can frequently be formed by a combination of planting and natural regeneration.

Implementation of effective site preparation and protection including drainage, control of competing vegetation, fertilisation and herbivore exclusion/ control. Where timber production is the priority, methods should be sufficient to establish the crop, rather than placing excessive emphasis on low impacts. In terms of deer protection, culling or fencing are relevant methods for larger schemes aiming at quality timber.

Implementation of appropriate young growth tending and thinning for species involved. Formative pruning may be unavoidable where initial stocking has been inadequate, but is a poor substitute for competition. Respacing and selective thinning should be carried out regularly to form a final crop of desirable stems. Inspection for pests and diseases, with appropriate replacement, should also be a regular operation.

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ENABLING MEASURES TO PROMOTE PRODUCTIVE HARDWOOD FORESTRY

Three wider sectoral activities are required to release potential for productive hardwoods:

Forestry skills development and retention – we need to re-emphasise training and skills development in traditional forestry, such as site/soil appraisal, species selection, establishment practice and selection silviculture. This should take its proper place both in the academic setting and "on the job", and needs to return to its former status as the primary consideration when recruiting field forestry staff across the sector.

Tree improvement and silvicultural research – these traditional aspects need to have a secure long-term place within our research portfolio, and need to be protected against the vagaries of "policy fashion" and short to medium-term funding allocations. This is likely to be best accomplished by fostering sectoral diversity of research activities.

Vertically-integrated harvesting, processing and market development – especially for quality hardwoods, but also for specialist/higher value conifers, there needs to be a move away from commodity processing at industrial sawmills towards an artisanal approach, more akin to traditional estate sawmilling and timber marketing. This is facilitated by rapid innovation in flexible/portable harvesting and milling equipment.

Dr. Scott McG. Wilson MICFor is an Aberdeen-based independent forestry consultant and author with specific interests in use of alternative species and silvicultural systems.

Upland aspen (left) and oak (above) in Aberdeenshire and Galloway respectively

RESOURCES ONLINE

For information about the work of the Future Trees Trust on traditional hardwood species see: www.futuretrees.org.

Articles on novel hardwood species will be appearing in the Quarterly Journal of Forestry, with the present author serving as either lead or co-author.

The Institute of Chartered Foresters is planning a seminar on quality hardwood growing in northern Scotland. For details and a reading list, please contact the author on scottmcgwilson@hotmail.com.

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2017 marks a new dawn for well-established woodland management firm

The roots (pardon the pun!) of Worcestershire-based Abbey Forestry can be traced back to the 1950s; 65 years later partners Andy Shirley-Priest and Ben Anderson look forward with optimism as they tackle the challenges of woodland management in 2017.

We are proud of the heritage associated with the firm and are pleased that former partners Tom Dunlop, Bede Howell and Andrew Woods have an active role within the company as consultant foresters.

This wealth of knowledge is complemented by recently recruited foresters Will Wood and Lucas Ashworth, who bring practical experience and a new energy to the firm.

Abbey Forestry offers woodland management in all its forms, from the initial assessment and planning phase right through to full scale harvesting and restocking. As a company we help woodland owners implement short and long-term objectives, to turn their forested land into a valuable asset, both economically and aesthetically.

Abbey Forestry specialises in new woodland creation, specifically the design, implementation and maintenance of plantations that not only meet the owner's objectives but also consider future implication, such as pest and diseases, climate change and future timber markets.

We have the means, experience and contacts to harvest and market all timber produce, from conifer chipwood, firewood, fencing and sawlog material.

We also offer a range of arboricultural surveys and assessments, including (but not limited to) BS:5837 Tree Reports for planning applications; tree safety assessments and risk zoning.

The Abbey Forestry Team would be delighted to hear from you to discuss your requirements. In the first instance, please contact our Office Manager, Tracy Stapleton on 01386 554027. office@abbeyforestry.co.uk | www.abbeyforestry.co.uk

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WOODLAND OWNER
PROFESSOR JULIAN EVANS OBE PICFor

Continuous cover silviculture

Attending the late John McHardy's funeral earlier this week led me to reflect on the silviculture he pursued so successfully at Longleat, particularly in stands of Douglas fir, which today is becoming commonplace – continuous cover. Does it have a role for the small woodland owner? What are the conditions needed to achieve it? Is it worth doing and what are the benefits?

The basic objective of continuous cover is, as the name implies, maintaining trees on the site at all times and never to go through a clear-felling phase. It resonates with selection forestry and several shelterwood systems of regeneration which generations of forestry students learned about in field trips to France, Germany and elsewhere. We could even argue that in aesthetic or landscape terms, traditional coppice with standards achieves the continuous cover impact.

The first matter to consider is whether or not your woodland is predominantly of shade bearing species. It is difficult to grow together different age and size classes of strongly light demanding trees like larch, pine, ash, birch or oak. The second point is whether you are at a stage where you are beginning to think about regeneration. Is the stand, if a conventional even-aged one, more than half way to its conventional rotation age? So if you have a moderately shade-tolerant species such as beech, sycamore, Douglas fir or spruce and they are being regularly thinned then why not consider continuous cover?

In simplest terms when you next thin, instead of favouring just potential final crop trees, cut a proportion of these to earn some extra revenue and open up around some smaller promising individuals. After a couple of such thinnings a once uniform stands develops structure and variety. There is greater diversity of sizes and due course ages as well. Of course if they are no smaller size trees that can be recruited for the long term more serious 'regeneration' work may be needed such as enrichment planting or looking for natural arrivals or even using wildings.

In my own patch of predominantly 60-year-old beech I have begun this process not so much to initiate regeneration but to add structure, to add more canopy layers. This is for wildlife and appearance reasons to make the woodland attractive. The accompanying picture shows progress so far and is certainly looking less and less like beech monoculture. Whether my successors will continue this approach through to a full continuous cover only time will tell.

If you want to pursue this silviculture do read more about it in the writings of Roger Helliwell, Gary Kerr or Mark Yorke and do lift a glass to toast the memory of John McHardy who was ahead of his time. We have much to thank him for.

> It resonates with selection forestry and several shelterwood systems of regeneration

Adding value to hardwood timber

ROBIN TRUSLOVE MSc MICFOR ON THE FORMATIVE PRUNING OF TIMBER BROADLEAVES

The need to prune broadleaf trees has arisen from the wider spacings now used in new plantations. These aim to avoid the higher establishment costs associated with higher planting density in the cost of labour, plants and protective materials. The effect of wider spacing is to delay canopy closure and the mutual suppression of side branch growth that, in turn, can lead to poor form. These effects are widely documented. Hart (1991) summarises: "little or no pruning is required for well-stocked, dense crops which have encouraged early side branch suppression". In addition, the technique is now considered good forestry practice as shown by Seaman and Wall (2002), Hemery, Savill & Kerr (2002) and Fenton (2005).

The financial benefits are also clear. By my calculation, a mature tree forked at 2m and/or heavily branched from absence of management, is destined for firewood at £20/tonne standing. On the other hand a mature tree with a good length of clear stem (the aim of form pruning to 3m and high pruning to 6m), can fetch £175/tonne standing as a sawlog. Assuming a good timber tree can release 2.87 tonnes of timber (equivalent to 75 Hft), it will be worth c.£500, but if a tree releases the same weight of firewood it will only realise £57.40. Could put as graphic This quality/price difference is expounded by Seaman and Wall (2002) who indicate that an increase in value as a result of 3 to 5 pruning operations is between 5 and 20 fold.

The first task is to remove competing leaders and forks at the top of the tree causing the main potential defect of reducing timber height. Any steeply ascending branches should then be removed. Finally any large branches (more than 50% of stem thickness) lower down the tree can be removed to prevent major bends in the stem. Not all trees need pruning; 1 in 3 trees is more than enough.

SUMMARY

The increase in timber value by pruning for quality is easy to see. Increasing the number of valuable trees per hectare is part of the skill of a forester. Importantly the practical skills are present in the contracting sector and with continued sharing of information more owners will be able to carry out the work in-house.

Robin Truslove MSc MICFor joined Lockhart Garratt Ltd in 2002, and works as a Senior Forestry & Environmental Consultant in lowland forestry in the Midlands and the landscaping of industrial quarries throughout the UK. Established in 1998

Lockhart Garratt Ltd has become one of England's leading independent environmental planning and forestry consultancies. The company employs over 30 staff, providing expert advice relating to arboriculture, ecology, forestry, woodland management, landscape planning and design and green infrastructure from both their Northamptonshire and Oxfordshire offices.

PRUNING REGIMES BY SPECIES

Ash *(Fraxinus excelsior)* - The principle defect in ash is co-dominant leaders; which can be easily rectified by removal of a single branch. Form improvement is instantly recognisable; however, the question needs to be asked as to whether it is worth pruning ash if it is only going to die prematurely because of Chalara ash dieback.

Oak *(Quercus robur)* - Oak can be more technical to prune and can be split into three easily recognisable categories: good specimens with upright growth and minimum side branching (generally leave alone), pruneable examples which can be made into good trees with 2 or 3 pruning cuts, and trees with total horizontal development of which there is no hope. In general, oak has more heavy lower branches, often requiring a sharp saw (in addition to the secaters and long handled loppers mainly used) for removal.

Sweet chestnut *(Castanea sativa)* - These trees are often tall with large stems and branch diameters which also require a saw so they need to be pruned early.

Wild cherry *(Prunus avium)* - The work should always done in late July to prevent bacterial canker or silver leaf disease.

Oak pre-pruning and, below, straight lengths of mixed timber

Stooling and singling of sweet chestnut

Sweet chestnut coppices well. By cutting at 5cm above ground level with a chainsaw or more efficiently sharp brushcutters (higher stools can dieback and are a trip hazard) good regrowth will occur. Brash can be laid low away from the stump to rot down, return the nutrient to the soil and ensure the regrowth is not physically inhibited by the dead cuttings.

Pruning and debudding of cricket bat willow

Cricket bat willow *(Salix alba var. caerulea)* are usually planted as 2-4m setts at 10-15m intervals along stream banks. The aim with these fast growing trees is to manage them by pruning to produce clear timber within a short rotation of 15-18 years. The market is currently very healthy for the timber, with trees being considered for felling once they reach 44cm diameter at breast height (dbh).

It is vital to highlight the difference in value of well maintained (regularly pruned) and non-maintained cricket bat willows. These trees are paid for purely on the length of clear stem achieved. At present, a price of £40–65 per bat length (74cm) can be achieved standing (dependent on girth and quality). Therefore, with a fork or branch at 1m height each tree is worth no more than £65, whereas a tree with 3m of clear stem can be worth up to £250. This is a considerable profit increase bearing in mind it takes 5 minutes twice a year to undertake the work per tree.

The method is simple. Side branches are pruned or (preferably) stems debudded to prevent branch formation, annually in May and August. The work should focus on maintaining a maximum height of clean stem by pruning to head height in years 1 and 2 and then to 3-4m in years 3 and 4 using long handled loppers and stepladders.

Pruning of poplar

Pruning poplar should aim to stop the growth and expansion of the branch junction, which will ultimately produce a knot and defect in the final timber butt. The stem then grows around the wound producing valuable clear wood and holding the knot in a central core.

Our experiences of the existing poplar market again confirm the returns available for regular management. Around £5 per tonne is the most that will be paid for unmanaged 'branchy' poplar as hardwood pulp where clean sawlogs can realise £18 per tonne.

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Seeing the wood from the trees

Research into tree and wood properties

PAUL MCLEAN FOREST RESEARCH

The physical, hydrological and mechanical properties of trees are critically important for the survival of trees, biologically and structurally. However, these properties also determine which trees can be used for particular forest products. Timber processors and end users often talk about wood or fibre quality; but in reality, the appropriate definition of quality depends on the end use in question. For example, when you make paper, you typically want wood with a low lignin content as this needs to be removed in the pulping process. However, lignin is full of many of the same chemical groups found in petroleum products, so it can generate more heat energy when burned as biomass. As a result, the opposite is true for biomass, and more lignin is a good thing.

At Forest Research our Tree and Wood Properties research group focuses on understanding the range of properties that are important for a variety of wood based forest products. Our aim is to help forest managers and growers make best use of all of the wood in our forests. However, in current markets, as saw logs tend to generate the most money for growers, much of our current work focuses on helping forest managers and growers produce trees with desirable wood properties for sawn timber applications. Generally, properties that are desirable for sawn wood are also positive for other forest products. It therefore makes sense to grow trees that are optimised for sawn timber products and to get the most options for the final utilisation of the wood!

> Generally, properties that are desirable for sawn wood are also positive for other forest products

Good saw log trees have straight stems and few branches, but the wood also needs to meet criteria for stiffness, strength, density and low drying distortion. We do research into all of these properties and specifically explore how they are influenced by genetics and the environment. The most obvious genetic differences that we work on are those that exist between genera or species, but our research shows that the variation for a given wood property within one species, or even with is grown rather than manufactured, and is therefore a naturally variable material with no two pieces being exactly the same. When using sawn timber, architects and structural

Continued on p29

Measuring log curvature on a harvesting site' - we are trying to examine and then predict how stem form varies on a national level, so we can help direct crops to the right market. We're increasingly using digital methods of measuring tree and log form, but we still get a ruler and log tape out to check we're right. In this picture we're measuring log curvature on a harvesting site, the string is a reference point.
(Photo: Forestry Commission)

Planting trees in high competition is beneficial for sawn timber properties but at the cost of slower diameter growth.

Continued from p27

engineers therefore need to consider the properties of the population of timber and not the individual pieces. The properties and hence value of the population of timber are of course dependent on the population of trees. Therefore, we help tree breeders look at how selectively breeding trees within a species can maintain or even improve these properties while also boosting volume production. We aim to produce super-fast fibre (or super fibre faster)!

When we talk about the effect of environment on tree and wood properties, people automatically think we're referring to climate, but climate is only part of the story. Forest managers can strongly influence the local growing environments of trees, mainly by managements decisions made made before any trees go in the ground. For example, our research demonstrates that it is beneficial for sawn timber properties to plant trees in high competition (ie by planting close together). However, we can equally demonstrate that the closer the spacing between trees, the slower the trees' diameter growth. Our research therefore helps forest managers to understand this trade-off and grow trees as quickly as we can while also producing material that satisfies current processor requirements. For Sitka spruce this translates as planting 2500 stems per hectare (2700 in Scotland). On suitable sites, this produces sawn timber that meets the requirements for the C16 strength class, which is the backbone of the domestic market for structural softwood timber. Some sites can produce the higher grade C24 timber in an equivalent amount of time. Our research has shown us that these are the less exposed sites, and by using computer models we can now estimate where these better sites are likely to be at a national level. We're working on integrating this into operational planning (both harvesting and design stages). You can try out the online, interactive development version for yourself via our website (details below).

RESOURCES

Freely available FC publications on the topics mentioned in this introductory article. Visit www.forestry.gov.uk/publications and search for "timber properties" to find research notes on the wood properties of different tree species. The most recent publication is the Research Note: "Timber properties of noble fir, Norway spruce, western red cedar and western hemlock grown in Great Britain" by David Gil-Moreno, Dan Ridley-Ellis and Paul McLean, 2016 (available at www.forestry.gov.uk/publications).
Another two publications, one on the measurement of stem form and another on the wood properties and uses of Scots pine will be available soon.

PARTICIPATE

We want our research to be useful. Giving us feedback helps us to target our expertise to help you enhance our bio economy and grow our forest industries. To find out more about our research, or to comment on or contact us about our work, please visit www.forestry.gov.uk/fr/timberproperties. Also don't forget to look out for us at industry events.

Survey of views on possible future grant schemes to control tree diseases

PARTICIPATE

In recent years, pests and diseases from around the world have severely affected several tree species in Britain, and others are likely to arrive in coming years. The FOREMOD research project, carried out by a consortium of universities and Forest Research, and funded by the UK government, studies possible choices of woodland owners and managers for ensuring longer-term resilience of woodlands to a range of possible threats.

The information generated will help woodland owners understand the economic consequences of different management options. It will also inform policy makers about how different incentives would best encourage woodland owners to make the decisions that most reduce future tree disease risks.

We are asking you to take part in a "choice experiment" to find out your preference between several pairs of possible disease control-related grant schemes that differ in their conditions. The more people who take part the stronger will be the evidence. Participating will not take long, will entail no long-term commitment and will be strictly confidential.

Chris Quine, Head of Centre for Ecosystems, Society and Biosecurity, Forest Research
John Healey, Professor of Forest Sciences, Bangor University

Further details and the survey are available via the link: http://tinyurl.com/forestmanagement survey

For health and wealth, make it homegrown

DOUGAL DRIVER
GROWN IN BRITAIN

Grown in Britain 'does what it says on the tin' and is unapologetic about its passionate position in backing UK woods, forests and their products. We want to replace imported wood products with high quality, innovative and home-grown supplies.

Of course, we do understand that a significant level of timber importation is essential to our economy; we could never be self-sufficient. However, when it comes to pests and diseases from overseas, we are adamant: we want to do anything we can to keep them at bay.

It's hard to find a beetle in a shipping container or a spore in a root ball and we would like to see more resources head towards our border forces to aid them. However, Grown in Britain can be part of the solution; using a homegrown wood product wherever possible, would reduce our reliance on imports.

In effect, the Grown in Britain provenance mark is also a health mark with every one of our branded consignments reducing the risk of importing more biological problems into our precious and highly pressured trees, woods and forests.

Look for the logo

Since the Grown in Britain licensing system was launched many sawmills, processors, woods and forests have become assured and are using the logo. The recent addition of two major timber merchants to the Grown in Britain 'family' is a significant step in our development that is currently seeing a doubling of license applications year on year.

The growth in our assurance is now allowing us to develop and deliver new license categories for more specialist parts of our homegrown supply chains such as our UK provenance and biosecurity based mark for nursery plants and our UK provenance and freshness based mark for Christmas trees.

Our growth is also allowing us to develop innovation in the timber sector such as our thermal modification initiative and to support over 40 local woodland enterprises.

Keep it Clean

In championing our homegrown timber products, Grown in Britain is heavily invested in safeguarding the health of our woods and forests. As such, we are delighted to be collaborating with Forestry Commission England to help promote its brilliantly simple 'Keep it Clean' biosecurity campaign, aimed at encouraging forestry professionals to take simple steps every day to help limit the spread of tree pests and diseases.

We urge all forestry professionals to think about their own biosecurity as they go about their work as humans have the ability to spread pests and diseases much further and faster than natural dispersal mechanisms.

RESOURCES ONLINE

One of the best ways to keep abreast of all things 'tree health' is to follow @treehealthnews or visit forestry.gov.uk/england-keepitclean for the latest biosecurity advice and guidance. For more information on Grown in Britain licensing, our assured suppliers or tree health, contact enquiries@growninbritian.org

Logos, leaflets and sticker files for the Keep it Clean campaign can be downloaded here www.forestry.gov.uk/forestry/BEEH-A6THMS

Norbord's Inverness plant gathers pace

An aerial view of Norbord's Inverness mill expansion.

Equipment for Norbord Europe's £95m mill expansion at Inverness has been purchased and will be shipped to Scotland over the next few months as work gathers pace on the construction of the new plant.

The equipment includes the forming line; the screening, blending and resin system; the heat-energy system, dryer and Wesp stack – which have been purchased from Germany and Italy – and the finishing end, which has been ordered from the USA. Construction of the 'lay down' area for the equipment to be stored before installation has been completed, along with the future logging yard.

When the new continuous press is operational, it will significantly increase the capacity of OSB production at Inverness and will have the potential fo-further expansion in the future.

ⓘ **www.norbord.co.uk**

Tilhill Forestry launches 2017 graduate programme

Forest management and timber harvesting company Tilhill Forestry is seeking graduates with drive, passion and enthusiasm who are interested in joining one of the forest industry's leading companies. Recent forestry graduates, or those studying for a degree in forestry or related subjects such as land management, environmental studies or horticulture, will be ideally placed to join Tilhill Forestry's three-year graduate programme. Successful applicants are assigned to a district office or business stream where they learn every aspect of that area, including shadowing highly experienced colleagues.

GET IN TOUCH

Applications should be emailed to careers@tilhill.com and the process closes on 27 February 2017. Should you require further information, please contact Sharron Nimmo, HR Specialist on 01786 435000. More information in the careers section at **www.tilhill.com**

Sian Jones MICFor, Msc Forestry, third year of graduate scheme as assistant forest manager at Tilhill's Llandovery office. Siân has found working on woodland creation particularly rewarding. She explains: "It's fantastic being involved from start to finish – from meeting the client to firm up a proposal, to securing the grant and then managing the actual planting and maintenance. It's very satisfying being a part of every step."

US experts get close-up view of UK forestry

Two distinguished US forestry authorities visited the UK in December for a first-hand look at commercial forestry and woodland operations in Scotland and England.

Bob Izlar and Jacek Siry, PhD, professors at the Warnell School of Forestry and Natural Resources at the University of Georgia—a leading forestry academic centre in Athens, Georgia, in the heavily-forested U.S. South—spent four days with foresters from Fountains Forestry UK Ltd touring privately-owned native and commercial conifer forests in Scotland and conifer and woodland properties in Southwest England.

The tour was initiated by US-based F&W Forestry Services, Inc, a global forest management company that acquired Fountains Forestry in mid-2016. F&W has regional and associated offices throughout the US, South America, France, and now the U.K.

The company currently manages over 900,000 hectares (two million acres) of forests and woodlands worldwide.

"Our foresters are using the same silvicultural and economic tools that they have in the U.S. but we are applying them to a very different biological, social, tax, and regulatory environment," said Douglas Murray, director of Fountains Forestry UK.

ⓘ **www.fountainsforestry.com**
ⓘ **www.fwforestry.net**

Enjoying the view of the native pine and birch woodlands near Glen Affric are Bob Izlar (left) and Jacek Siry, PhD (right) with Marshall Thomas (center), president of F&W Forestry Services.

NEW CONFOR MEMBERS
C A First Aid, Falkirk
D & R Rural, Cumbria
Lansdown Allen Management Limited, Dumfries
Robert Burns, Leicestershire

Plan for National Tree Improvement Strategy

Confor, tree improvement charity Future Trees Trust and Forest Research are working together to create an initiative that will be of interest to all Confor members, nursery owners and anyone growing trees for timber – a National Tree Improvement Strategy (NTIS).

Forestry Commission's funding for tree improvement – conifer and broadleaf – is likely to disappear in the next five years, so the consortium are creating a network of stakeholders involved or interested in tree improvement – nurseries, foresters, scientists, researchers, land-owners, sawmillers, ecologists – to develop a national strategy and action plan for all tree-breeding.

Through selection and breeding of a wide range of tree species capable of thriving in UK conditions - broadleaves and conifers, native and exotic – the aim of the NTIS is to promote economic value, genetic diversity and species resilience to produce trees with good vigour and timber quality, showing resistance to known pests and diseases, able to withstand the seasonal and longer-term climatic variations, whilst ensuring all improved planting material is available to all interested parties.

By engaging the whole sector, securing their views, opinions and suggestions, a strategy will be created that everyone can sign up to and support. Through creating collaborative partnerships between stakeholders under the banner of the NTIS, significant new funding for tree-breeding research can be secured from organisations that don't currently support tree-breeding – Research Councils, international funders, corporate supporters, etc.
See also, *Making hardwoods work harder for us*, p18.

The consortium need your views, suggestions, opinions and thoughts on what tree improvement means to you and your business and how you would like to see it develop.
Contact Andrew Heald at Confor – andrew.heald@confor.org.uk or Tim Rowland at Future Trees Trust – tim.rowland@futuretrees.org.

The Terminator is coming

JEZ RALPH ON WHY WE NEED TO HUG HIM NOT KILL HIM

I'm fairly certain that 30 years ago there was a felling gang working some lowland hardwood site scoffing at the idea that harvesting machines would ever make their way out of the confines of large-scale production forestry. Yet here we are now, regularly thinning hardwoods with harvesters. Highly automated systems are rapidly becoming the norm in many sectors and slowly crawling towards forestry. At all levels, at all scales they will arrive and, if we can grasp them, they hold revolutionary potential to forestry and timber processing. What follows is a basic primer in the systems set to revolutionize forestry over the next generation.

Automated vs autonomous systems

Fully autonomous systems are those requiring no human input and are probably a way off in our and others industries, though autonomous tractors are making their way into agriculture. Automated systems bridge the gap between total human control and total digital control. A harvester, a GIS system, an optimized sawmill could be seen as basic automated tools already in wide scale use in forestry. A raft of new technologies are now becoming available.

Scanning

Once the realm of large estates that could afford basic photographic aerial reconnaissance, the development in multi band-width scanners that take feedback from visible and non-visible parts of the light spectrum has been remarkable. Laser based, x-ray and other scanning methods are becoming portable and affordable and will allow not only full mensurational assessment but also indicators of forest health and timber quality. Forest inventory will become fast, information will be passed directly to contractors and buyers, databases of specialist timbers held on line for niche markets.

ROVs – remotely operated vehicles

We are mostly familiar with airborne remotely operated vehicles that are being used for large scale forest inventory in many countries. Though the difficulty of running these in the UK's crowded airspace limits the use of larger aerial ROVs, small-scale drones can be fitted with cameras, scanners and sensors to overfly most woodlands for information gathering whilst satellite imagery is now getting good enough to select individual forest trees. On the ground, remotely operated and autonomous tractors are making their way into agriculture and will arrive in forestry. The idea of operating a harvester from the comfort of the sofa is an entirely realizable concept with current technology and will arrive in real applications.

Outside the forest gate, automated systems are revolutionizing most areas of manufacturing. It is possibly easiest to think of these technologies as either extractive (machines that cut material down to the final form) or additive (machines that build up layers of material to the final form). Both robotics and 3D printing can be additive or extractive and boundary and definitions of the two are blurred.

Robotics

Bearing in mind the ubiquitous nature of robotics and multi-axis CNC machining (Computer Numeric Control, or automated machine tools) in most industrial sectors (think about images of car plants with robots performing tasks from moving to fixing to welding), robotics will eventually become commonplace in sawmilling and timber processing. Whilst the programming of these highly efficient machines to be used on the anisotropic nature of timber pose some difficulties, these are being and will be overcome in the near future.

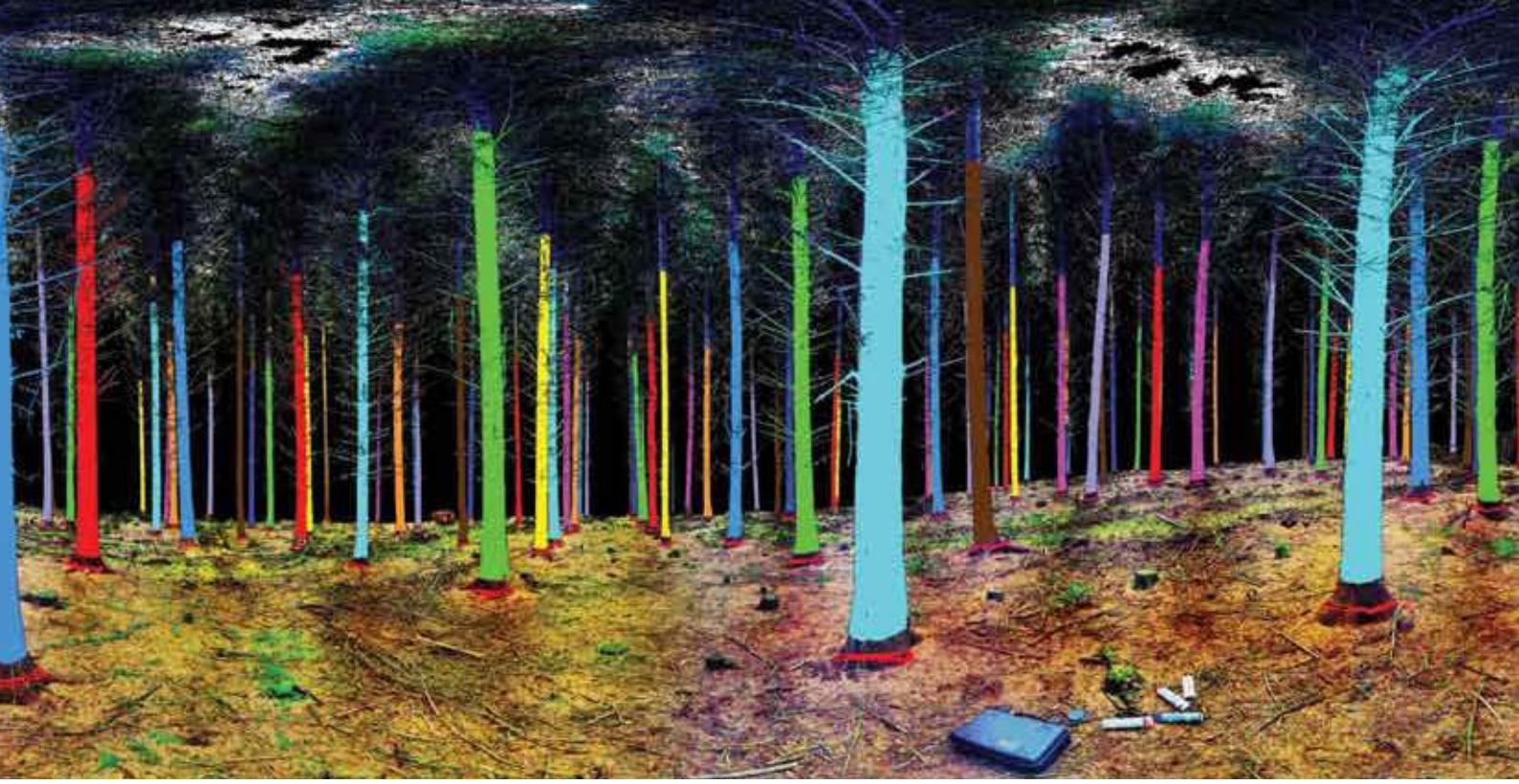
The Kuka robotic arm at the Architecture Association's campus at Hooke Park is probably a globally unique look at how robotics can be applied to timber processing. Their affordability and flexibility make them potentially ideal tools in all sizes of processing and fabrication operations.

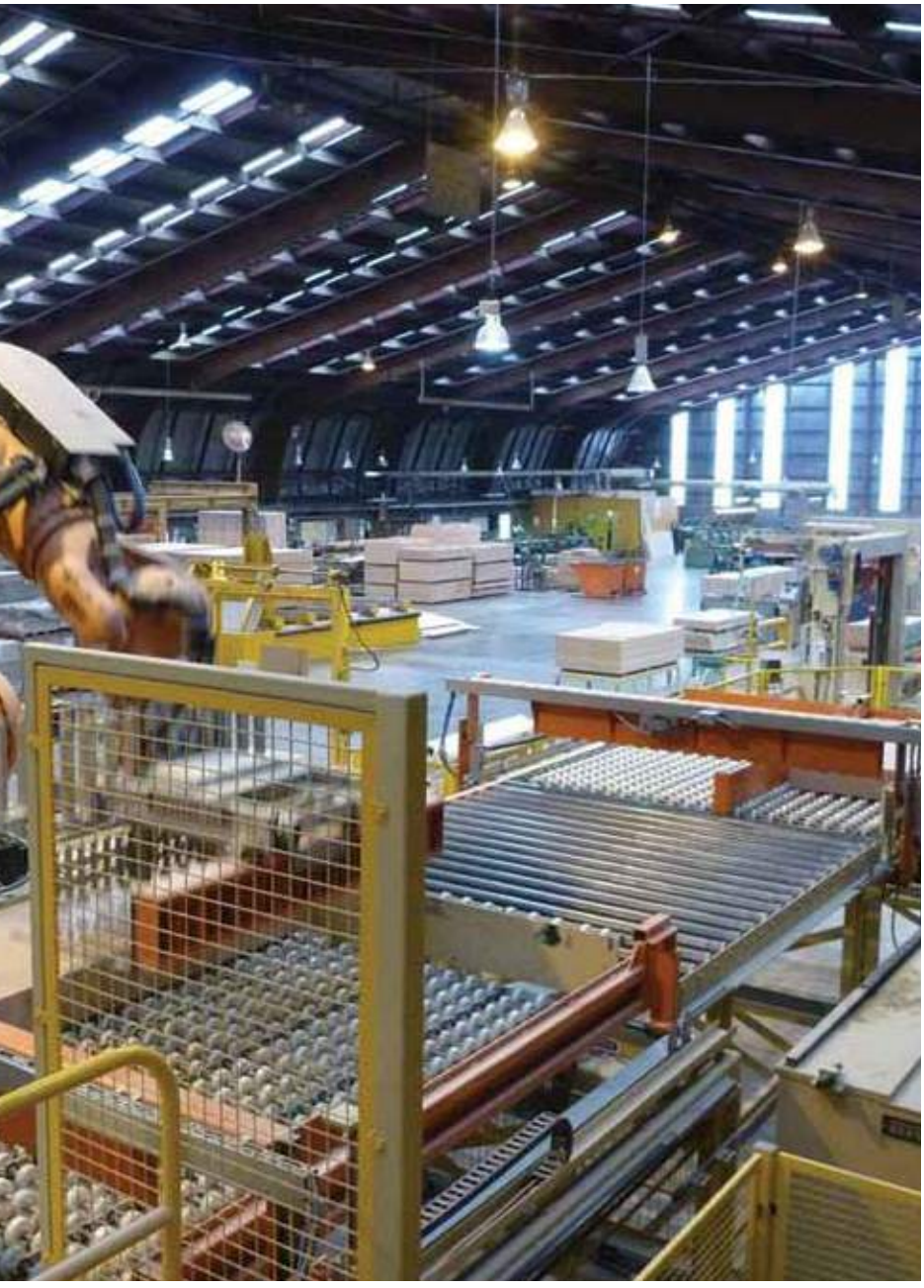
ⓘ **https://hookepark.aaschool.ac.uk**

3D printing

Of all the technologies presented this is the most widely known about and the most difficult to imagine in a forestry-specific application. 3D printing is starting to make big impacts in the manufacturing of equipment nd the point of being able to get bespoke parts printed for, say, older machines not now supported by manufacturers is a reality which should allow substantial cost savings in capital expenditure. On the other end of the scale there are already new markets for reformed wood that form the basic substrate from which 3D printed objects can be printed.

See also, p36.





[1] 3D stem profile used in a terrestrial laser scanning inventory, produced by Confor member Treemetrics.
ⓘ **www.esa.int/spaceinimages/Images/2016/02/Treemetrics_woodland_laser_scan**

[2] Use of Robot arms used in a New Zealand LVL to create manufacturing line efficiency

Jez Ralph is the Director of Timber Strategies specialising in timber quality, product and supply chain development. He won a Nuffield Farming Scholarhsip in 2012 to look at global advances in timber processing technologies and also works at the Architectural Association School of Architecture's woodland campus at Hooke Park.
ⓘ **www.timberstrategies.com**

Look forward to more on the topic in our New Technologies feature in October. In part 2 of his series, Jez Ralph will talk about Data, Communication and The Internet of Things and how digital process will make us reimagine silviculture and timber processing.

Print me a new trigger, Scottie!

COULD FORESTRY JOIN OTHER INDUSTRIES IN USING 3D PRINTING TO SAVE TIME AND RESOURCES?

A few weeks ago I flicked through a farming magazine and saw a brief article about a new 3D printing service presented at the LAMMA machinery show (see Q&A, facing page). This made me think: is this something that might have a future relevance for the forestry and timber sector as well?

"3D printing of spare parts for failing machinery is one of the main drivers that got me interested in learning about 3D printers in the first place. In the context of climate change and economic hard times, an entire machine falling out of use and requiring replacement due to the failure of one small part seems particularly criminal", says Andy Moore, a very early adopter of 3D printing and founder of the start-up Ten Thousand Things Fabrication Ltd.

Forbes magazine (08 June 2016) summarised the findings of the report State of 3D Printing 2016 for which 1000 people from different sectors and countries where surveyed on their use of additive manufacturing technologies. The study found that some of the priorities for 3D printing are not only for improved product development (26% of answers), but also for users to reduce tooling investment, co-create equipment and devices with the manufacturers or improve spare parts management. The fastest growing application of 3D printing for the next four years will be to increase production flexibility.

The opportunity is there and up for grabs, in particular for a sector like ours, where machinery of all sizes and types are part of our everyday business – from small chainsaws to automated sawmill production lines. But will it be worth the effort of changing our mindset and embrace a radically new approach to take advantage of the potential benefits this new technology might bring?

What is 3D printing and should we care?

The Forest-based sector technology platform explains: "Additive manufacturing is an innovative industrial production process of joining materials to make objects from 3D model data, usually layer upon layer. It requires dedicated 3D modelling software to design the product in connection to adequate 3D hardware capable of reading the data and mould a solid shape by using a variety of materials (polymers, metals, glass, biochemical materials and,

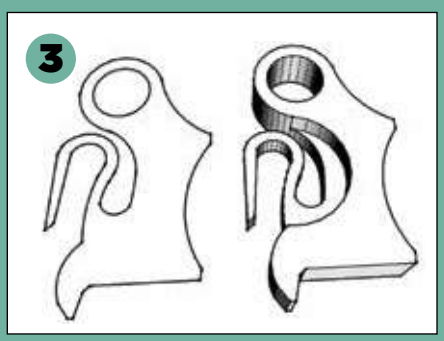
Continued on p38

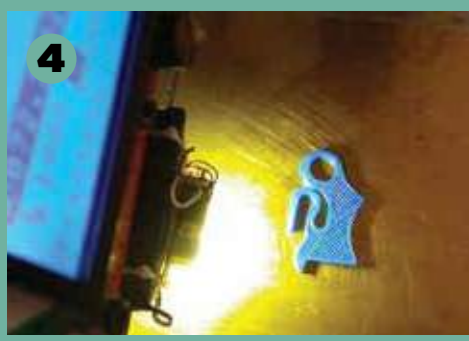
3D PRINTING
KEY OPPORTUNIITIES

- Increase the efficiency of equipment and reducing running costs.
- Reduce the time required for production of one-off and repetitive parts.
- Extend the usable life of machines that may be deemed no longer fit for purpose or for which the parts are obsolete.

(James Hudson)

HOW IT'S DONE





Q&A

James Hudson, JF Hudson

FTN: In general, is 3D printing of spare parts a feasible option in the UK?
3D printing has become far more accessible to business and the general public over the last five years, although the technology has been around for 20 years and has been used by multi-national businesses to help with prototyping and product development. There are now companies who specialize in 3D printing and it is all they do. Being as it is possible to print steel as well as more commonly known plastics, it is feasible that in a situation where the part is difficult to get or obsolete, 3D printing could be a possible alternative solution. As with multi-national companies, 3D printing enables anyone to prototype a part, so if there is a complex shape that would have previously been difficult and expensive to be molded or cast using traditional methods, most of which require a minimum order quantity to justify the time and effort, 3D printing enables a small number of parts to be produced with relatively little effort when compared to the old ways.

FTN: How can someone get a failing spare part printed? Can they send the failing part to a company? How can companies overcome the difficult part of modelling a part to be printed?
Companies exist that will produce a computer model that will then be used by the 3D printer to produce the part, although this may take time and a machine may be out of action if the part that has been removed is critical to the operation. Once the first part is produced it is relatively simple to reproduce the same part as and when required. Also, if it is a part that repeatedly fails, it would be easier to make alterations as required to ensure that part doesn't fail as often.

FTN: Under which circumstances could the forestry (or farming) sector benefit from this technology? Imagine a client – forestry or farming company of any size – that has a vehicle and needs a spare part quickly. What is the advantage of 3D printing and how will it be important in the future?
The capabilities of 3D printing and the application with in all sectors of industry are still being learnt and will continue to develop at an ever increasing rate. The biggest restriction on the use of 3D in any sector is the acceptance of the technology as a viable alternative by those in the industry, as with all technology the cost of the equipment and process will become more accessible as time goes on. Alongside 3D printing is an emerging technology call 3D scanning; this allows the user to scan anything and the software generates a 3D model in the computer. This can then be used to create the file required by the 3D printer. 3D scanners are also becoming more accessible and more mobile. In the future, if a customer has failing part to replace, he could use his smart phone to 3D scan the part, send the file to the 3D printer, who could then manipulate the file as required, print the part and send it out. This would reduce the time and necessity of sending failed parts for a company to create the 3D model.

Images showing the process of replacing a missing chainsaw trigger.
[1] Aside from your 3D printing setup, a few simply tools will make fitting a prototype template quick and easy.
[2] Taking precise measurements from the template and the part environment is the key to getting good results. *(Photo by author)*
[3] and [4] Drawing a 2D shape using the measurements taken from the cardboard template and handle, the part is then "extruded" up to make a 3D prism of the desired shape. Details such as the partial extrusion of the spring shown here can then be added prior to finalizing the design.
[5] Test fitting and function testing of the new trigger.
[6] A few minutes and a 3D printer turned this chainsaw from a pile of parts into a useful tool. *(Photo by author)*

Taken from http://3dprintingforbeginners.com/3d-printed-replacement-parts, which is an excerpt taken from the book "The Zombie Apocalypse Guide to 3D printing" by Cliff Smyth (Chapter 2: Protoyping and printing replacement parts, from knobs to triggers).

Continued from p36
more recently, wood-based composites) and various methods of layer printing.

"There are indeed exciting opportunities and ideas that challenge the forest-based sector to investigate the potential of additive manufacturing, both from the point of view of manufacturers and consumers."

In the future, an increased availability of 3D models for parts to be printed could facilitate a wider adoption of this technology.

Opportunity: spare part management

"I am sure you have been there: you owned a product or device that you ended up throwing away since some small, insignificant looking plastic part had broken. You took your gadget to the shop for repair only to be told that it is cheaper to buy a new one rather than having it repaired. Anybody environmentally conscious will cringe at this point: you have to throw away an item of which 99% of the parts still work but that tiny broken part that you can't replace forces you to dispose of the gadget". This is how James Hudson of JF Hudson introduces his CAD N CUT service to his clients (see Q&A, p37).

But there is more to it: the reason for wanting to print a machinery part can be due to difficulties in obtaining spare parts for vintage models, or the need to actually improve a spare part that causes problems repeatedly. Replacement parts can even be designed if the original part is missing (see p36).

RESOURCES ONLINE

http://jfhudson.co.uk/services/cad-n-cut/

3D Printing for beginners: http://3dprintingforbeginners.com

A future market for digital parts

Before a part can be printed, a 3D model needs to be created. In the future, developments in 3D scanning will facilitate this process. For now, clients who wish to look into 3D printing are best off getting professional help to get started with 3D printing and modelling. In the future, ready-to-print files will be available for more and more parts of machinery or other equipment, making the process more straightforward.

Andy Moore explains the implications of creating a model of a spare part: "Replacement of failed parts for proprietary machines whose design files are not available to the public must be done by reverse engineering of that part by someone with the necessary skill set. To do this you would have to dismantle the machine, remove the pieces of the broken part, create a digital model of that part, and recreate the part from the model.

"There are a range of software modelling options with a wide price range. 3D scanning tools will only capture the visible surface of a part and so the captured model will require at least a little design ability to make sure that it is reproducible by a 3D printer. There is also the approach of sitting with a set of digital callipers and measuring by hand all of the part dimensions as you input them into the modelling software – a very flexible approach depending on the part (see panel, p36).

"The difficulty of modelling is largely avoided in the small but growing world of open source hardware where designs for all the parts are made freely available on sites like github, thingiverse, GrabCAD or 3DWarehouse amongst others.

"In both cases the modeller/maker has the opportunity to improve the design of the part, perhaps to add strength to it in the place that it failed, making a further failure less likely. Having that improvement feed back into the community to allow other users of the same product access to it is vastly more likely in the open source world."

The State of 3D Printing report can be downloaded from www.confor.org.uk (Resources - Publications – Reference Publications)

Forwarder at work in the forest
(Photo: Tilhill Forestry Ltd)

Compliance with PUWER for tree work winching operations

Differing opinions currently exist within the forest industry about the application of PUWER (Provision and Use of Work Equipment) and LOLER (Lifting Operations and Lifting Equipment Regulations) to winching operations in tree work, for example: skidding and directional felling. As a result, queries are regularly raised particularly in respect to the inspection and thorough examination of winching equipment. These queries often stem from how the term 'lifting' is interpreted in respect of loads being winched. The HSE have issued a paper to clarify the application of health and safety legislation to the use of winches in tree work – in particular in relation to the requirement for thorough examination and inspection. This paper is available on the FISA website.

Cable cranes lift as part of their function therefore the requirements of LOLER apply. For winching, where the load does not leave the ground, if the work equipment does not have as its principal function a use for lifting and lowering, then LOLER does not apply; but PUWER does.

It is important to recognise that LOLER and PUWER require much the same thing for work equipment that they apply to: that the equipment is suitable for the task undertaken; that it is properly maintained, and that it is operated correctly by competent people.

FISA will shortly add a machine inspection check sheet to the FISA website, enabling you to download a check sheet to complete for your machines.

ⓘ **www.ukfisa.com**

THE NEW FARMI SMART TRAILERS & CRANES

In the popular segment of 9 and 10 ton forest trailers, FARMI Forest launch the new Finnish made trailer crane combinations, which are stronger than ever.

The machine level has been elevated with new features such as: a larger grapple and a linkage brake which is standard in the FARMI Smart crane series.

Flap-down support legs are made for professional use, and the excellent balance and ground clearance are known features since the previous, prize-winning, 9-ton FARMI 90 trailer.

Load securing loops facilitate mobility, and also available is an additional transportation base for energy wood harvesting.

The cranes are equipped with four slewing cylinders, with a lifting torque of 4,0 tm in the crane for the 9-ton trailer FT9, and 4,6 tm in the crane for the 10-ton trailer FT10.

The powder coating of the components guarantees a high-quality finish, and you can also add crane protective equipment for felling and harvesting work. FARMI Forest offers felling heads and stroke harvesters made by Naarva. The trailer-crane combinations are available to order now!

FIND OUT MORE

OF THE FEATURES & BENEFITS HERE

www.farmiforest.fi

TEL: 01476 568 384

Email: Sales@Farmiforest.fi

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APPROVED FARMI DEALER

Full Forestry Management

Forest Research machinery census

Forest Research, the research agency of the Forestry Commission, is calling on all forest harvesting machinery owners and operators to complete its forest machinery census - and provide valuable data about the current state of the harvesting resource in England, Scotland and Wales.

The survey, seeks to understand the nature, size and capability of the harvesting resource throughout England, Scotland and Wales.

The survey, which is anonymous, will inform better targeting of research and training and other support to the forestry sector. The last such survey took place in 2001 but considerable progress has been made since then in the scale and sophistication of forest machinery.

Duncan Ireland, Forest Research's Technical Development Project Manager said: "The harvesting sector has undergone a great deal of change since the last survey was done.

"Silviculture and market conditions have evolved and the type of machinery used today has responded, becoming more sophisticated and diverse. Efficiency and capacity have also increased.

"Updating our insight about the forest machinery in use today will help us to gauge the strength of the sector and its ability to meet future needs throughout England, Scotland and Wales.

"I would urge anyone who owns or operates forest harvesting machinery to spend a few minutes doing the survey. It will benefit everyone working in the forest harvesting sector."

PARTICIPATE

The census is online and contains 21 questions. It will run until February 2017, with a report containing the results published in spring 2017.
nigel.sargeant@forestry.gsi.gov.uk

Tractor-trailer forwarder operators sought

If you operate a smaller scale forwarding trailer combination, Forestry Commission, Forest Research would like to hear from you.

Technical Development is interested to hear your experiences of using medium-small, small and mini scale timber trailer-type forwarding combinations, which usually (but not always) use smaller tractors as the prime mover. These carry loads of less than around 9 tonnes (medium-small), 6 tonnes (small) and 2Đ tonnes (mini).

We carry out operational research into forestry methods and machinery, and in recent years this has included diverse work on small and medium scale equipment. Tractor based forwarder units with self-loading trailers (i.e. trailers with loaders) are highly versatile, valuable machines for woodland management and research is currently being undertaken into their role in British forestry.

Technical Development is keen to learn of operator experience with these machines, their capability, operational capacity and range of applications across the country, and to visit working examples.

We're also keen to hear the views and experience of equipment suppliers.

The aim of this work is to produce guidance for forest managers on how to make the best use of smaller and mini tractor–trailer units for woodland management.

PARTICIPATE

To help with this valuable research, please contact Michael Wall at Ae, Dumfriesshire – michael1.wall@forestry.gsi.gov.uk
Tel: 0300 067 6936.

Forestry First Aid +F and emergency planning

First Aid +Forestry (EFAW+F) is now considered the industry standard for those working in the forestry sector. But what makes First Aid +F different to conventional first aid at work?

The modern forestry environment is far removed from standard response times with employees often working in remote areas with limited or no communication and challenging access to casualties. At times, conventional emergency services may take longer to respond or need assistance from mountain rescue teams, the Coastguards and helicopters.

First Aid +F takes these special circumstances into account. Workers often have to look after a casualty with possible life threatening conditions for longer periods of time, and help has to come as quickly and effectively as possible to make sure lives are saved. First Aid +F and emergency planning is more than just first aid; it is also about awareness of the working environment, a possible lack of communications and the likely injuries associated with this specific industry. First aid +F courses should be about awareness of the challenges of a worst-case scenario so when it does happen we are better prepared.

FORESTRY REQUIRES A DIFFERENT APPROACH TO FIRST AID SAYS **STEWART RICHARDSON**

Remote casualty evacuation planning

One of the key factors of First Aid +F should include some form of casualty evacuation planning. This is mainly about making sure we get help to the casualty as quickly and effectively as possible. We can have the best equipment and first aid skills but if we are left on our own without help coming we are putting lives at risk.

We need to think more about how we communicate with the emergency services when an accident occurs. If we can provide detailed information about the persons injuries, location, conditions on the ground, and best access to the site we can hopefully get assistance to casualties quicker.

Getting help fast

Communications in the modern forestry environment haven't changed much over the years; although we have smarter mobile phones nowadays, we often work in areas with unreliable phone coverage. A mobile phone might have signal one day but not the next.

Satellite technology has advanced in recent years and the introduction of personal locator beacons is becoming more common. Spot messenger devices have been adopted by many workers but they only provide one-way communication. People on the ground have no confirmation if the message arrived and if help is on its way. We could be left waiting without knowing what help – if any is coming – and, more importantly, how long it will take.

There are other devices on the market that offer two-way communication. The DeLorne Inreach Explorer offers this service, meaning both the people on the ground and the emergency services are much better informed.

Giving the correct location of the casualty

When communicating with the emergency services we need to give details of the conditions on the ground as much as about the casualty. The only effective way to do this is by using a grid reference. Postcodes equate to a building or venue but a grid reference gives us much more information about a location. It helps the emergency services decide on the level of response and whether to deploy the conventional ambulance service or escalate it to other services. The Ordnance Survey has just released a great mobile phone app called OS Locate that will give us a grid reference without a mobile phone signal.

Adapting first aid practices

The HSE has also recognised the requirement for specialist Forestry First Aid +F training and is now recommending that all Forestry First Aid + F courses include training on hemostatic clotting agents like Celox, tourniquets and defibrillators. This is a major shift in first aid techniques but for remote first aid, this has been standard practice for several years now. I often get asked about first aid equipment and what is required on a forestry site. My answer has always been that the first aid kit you have on you at the time is the best one.

First aid kits need to be specific to the job at hand so the ability to treat major trauma injuries is a key requirement. All too often we think that the standard off-the-shelf first aid kits are up to that job, however, they are not suitably equipped for forestry operations. They are bulky, therefore tend to get left behind in the vehicles; they are great until you get trapped by a fallen tree or have a broken leg – far away from your car or truck.

The trauma dressing is a one-bandage-fits-all product. It has a large wound dressing capable of soaking up high volumes of blood. It is made of an elasticated material which allows to apply more pressure to the wound. It also has a pressure pad and bar so can be made into an improvised tourniquet. Celox and Quick Clot are hemostatic clotting agents used to help the blood clot more quickly.

Continued on p45

First Aid +F is teaching first aid to people working in the context of remote locations and environments with possible major trauma injuries.

Continued from p42

These two products used correctly may negate the use of a tourniquet and save a life in major trauma injuries. They can be carried in a pocket so are more effective than the larger kits that are left behind in vehicles.

Something else I highly recommend in a first aid kit is the means to protect a casualty from hypothermia. The classic orange survival bag used by hill walkers is a good starting point. It is waterproof and reduces wind chill so casualties can be temporary protected from the elements, while we gather more appropriate equipment to prevent hypothermia.

The first aid industry is catching on to First Aid +F and I often get asked if you can do a bolt on to an existing first aid qualification. The answer is no, there are a lot of shared skills but this article hopefully raises awareness of the specific considerations that are relevant for forestry workers. First Aid +F is teaching first aid to people working in the context of remote locations and environments with possible major trauma injuries. First Aid +F courses need to continually refer to this in all first aid situations. It's important when choosing a First Aid +F provider that they understand your working environment. It may mean the defiance between life and death in a serious incident.

> If we are left on our own without help coming we are putting lives at risk

CA First Aid

Stewart Richardson is the founder and owner of CA First Aid and has been delivering first aid to the forestry sector for over 10 years now.
A former member of the Royal Engineers, Galloway Mountain Rescue Team and Overseas Expedition Leader, Stewart has a real understanding of the challenges of working in rural environments often far away from help.
As a member of UK FISA, CA First Aid specialise in delivering forestry EFAW+F first aid courses to the Forest Industry and over the years has developed a EFAW+F course that is both informative and relevant to the sector.
CA First Aid is a member of Confor.

RESOURCES

To find open and bespoke courses visit www.cafirstaid.co.uk

Emergency services phone number 112 /999 ask Ambulance Service or Police if Mountain Rescue Team required.

Mobile phone apps
OS Ordnance Survey Locate
View Ranger

Forestry Commission first aid policy
www.forestry.gov.uk/forestry/infd-8wpmpq
www.hse.gov.uk/treework/site-management/first-aid.htm

FORESTRY FIRST AID ESSENTIALS

[1]
KEEP IN TOUCH:
INREACH
EXPLORER

[2]
BE FOUND:
OS LOCATE

[3]
STEM THE
FLOW:
EMERGENCY
BANDAGE

[4]
KEEP WARM:
ORANGE
SURVIVAL BAG

In memoriam: John McHardy, a giant of forestry

Tributes poured in from around the country as the forestry world gathered on 10 January, with his family, to celebrate the life of John McHardy, who died on 27 December, aged 80.

John was described by one well-known colleague as a 'giant of forestry'. As Head Forester on the Longleat Estate in Wiltshire, seat of the Marquess of Bath, with its 4000 acres of woodland, John played host routinely to visiting groups of students, academics and fellow professionals, all on a pilgrimage to see the exceptional quality timber that John was developing within structures now recognised as Continuous Cover Forestry. As he developed these systems, CCF was not yet a term in the UK forestry lexicon. John's silviculture arose from first principles: the vision of a man, with an intimate knowledge of his trees, growing them in the most efficient way he saw fit. Over his lifetime, our profession witnessed a silvicultural paradigm-shift towards CCF with John amongst its first and leading exponents.

What perhaps made John so special though was the impact he had on those around him. Talent like this is truly to be admired but when a person can communicate their knowledge, inspire people of all ages and backgrounds and still, it seems, be universally loved, that is really rare. Even supposed adversaries: many timber buyers came forward to tell stories of how they had been persuaded by John to buy something they didn't want, but could never hold it against him! The buyer of prime oak paying over the odds for some large, straight, knot free, but ultimately worthless turkey oak; the buyer of logs (and now officer within this august organisation) who spent the day worrying about the escaped lions, that John happened to mention as they set off around the woods to price up a parcel of timber; the rebranding of otherwise unfavoured timbers to make them more marketable ("Lawson's cypress? I don't have any..... but I do have this very nice Port Orford cedar")!

Those from around the west country, particularly members of the Wessex Silvicultural Group, will remember John mainly as a good friend. Someone who was warm, witty and slightly mischievous, always razor-sharp at meetings but never belittling of the host. He pressed younger leaders for their opinions to sharpen their thoughts, but quickly had encouraging words if he thought he might dent their confidence. He interrogated colleagues but empathised with their situation. His funeral was attended by the range of forestry people: landowners, contractors, Estate staff and fellow professionals. Young and Old. This showed the inclusive personality with which John was blessed.

This author remembers a particularly poignant meeting, bumping into John at Longleat just after he had retired in 2001 and when he started to deal with the effects of the Parkinson's disease that would blight his later years. He was still returning to the Estate to mark thinnings. After a hearty greeting, he launched into enthusiastic recitations on the histories of the various stands around us. He then asked me, then a junior forester, what I thought: how would they do; did I think this was right; what would I have done? Genuine interest in my naïve views and no assertion of his own. Then the conversation drew more serious as I asked how he was getting on. A proud man, he explained how difficult it was to deal with the physical manifestation of the disease. He held up the paint tin, which shook violently in front of us. Then he looked up and the broad, cheery grin and the glint in those wide, friendly eyes returned. "Oh well", he said "Keeps the paint nicely mixed!"

A giant of forestry. The best of humanity.

Peter Oliver, Canopy Land Use

See also Julian Evans on p23

Two honoured for services to forestry

Confor has welcomed the inclusion of to forestry stalwarts, Paul A Raymond-Barker and Alan Motion, in the New Year Honours list.

Alan Motion was until recently the Chair of the Institute of Chartered Foresters Examinations Board, Alan's services to the sector was recognised when he was awarded an MBE. Based in Central Scotland and with a background in local authority arboricultural consultancy and private sector land management, Alan Motion provides specialist independent advice in all aspects of arboriculture, amenity tree care, woodland management, and urban forestry.

Paul Andrew Raymond-Barker FRICS was awarded the Medallist of the Order of the British Empire for services to Forestry and Silviculture in Wales. Paul has many years' forestry experience throughout Wales and the border counties as an independent forest manager, consultant and valuer of forests and woodlands. He has been a stalwart of the forestry sector for many, many years.

Left, Alan Motion and right, Paul A. Raymond-Barker

Can a 'warm welcome' benefit the private forestry sector?

Forest diversity can take several forms, involving various business models, species and habitat mixes, public access and recreation. At the same time, its motivation can range from purely financial to purely altruistic. Ultimately though, the long-term health of the forest industry will depend heavily on its relationship with the wider public.

I frequently work at weekends, and if the surveys are not over-complicated, I can visit three forests over the two days. In one weekend at the end of the summer, I encountered three very different approaches to that relationship, in a relatively small geographical area.

The first was managed by the Forestry Commission. Though barely daylight, families were arriving at the car park and setting off on one of the several way-marked trails through the woods. An information board listed the various walks, with their lengths and degree of difficulty, from a gentle stroll to a serious hike. Picnic tables were available throughout the car park, and at points within the forest. Thought had also been given to species diversity, with a mix of broadleaves and various conifers gradually giving way to Sitka spruce as one ventured deeper into the forest.

THE SHARP END
NORMAN HALL-GARDINER

The second forest, later that day, was in the private sector, and consisted of practically wall-to-wall Sitka, with the occasional group of broadleaves at strategic points. While public access was not actively discouraged, nor was any provision made for it.

The third forest, on a grey Sunday morning, was perhaps the most surprising. It was an isolated block of mostly Sitka, Hybrid larch and Douglas fir, around 50 Ha in area, and that I happened to know was overseas-owned, but managed by a local contractor. The 'car park' was no more than the bellmouth at the forest gate. The gate itself was locked, but carried a sign inviting visitors to use the stile, to walk freely through the forest, to please avoid litter and campfires, and to kindly report anything untoward to a local number. For the cost of a few pounds, the owner had done a great service to forestry, and at the same time enlisted a 'forest watch' team.

When, in 2010, the Government announced its intention to sell off the state forests, that policy's failure revealed two things; firstly, that the public values forests (and by association, forestry); and secondly, that it does not trust the private forestry sector. The sell-off will return in some form, and its outcome may again be dictated by public perception. The private sector needs to improve that perception, and actively welcoming people into the woods would achieve much.

> For the cost of a few pounds, the owner had done a great service to forestry

Uncertainty overshadows positive outlook

TILHILL FORESTRY TIMBER MARKET REPORT

PETER WHITFIELD

Brexit is now a certainty; but what it means to the UK and the wider economy is definitely not. Certainly the forecasts of the impact on exchange rates have very much delivered in terms of the weakening pound Sterling, but what is not so evident is that the historic inverse relationship between the Sterling/Euro exchange rate to log prices in the UK is maybe not as strongly correlated as previously. The reason for this seems to be that the Swedes and other importers are differentiating their product into C16 and C24 rather than mixed grades and the C16 imports are priced to compete directly with the UK sawn product. In addition, the Irish continue to bring in timber to the UK at extremely competitive prices that undercut UK domestic products.

Despite this somewhat differing picture on imports sawmills are busy and running full shifts with generally good order books. Demand for logs is good and prices are positive. The graph below is an index and plots a mean UK green log price from a representative sample of the private sector supplies across most markets. The chart plots the mean log price trend and the individual mill variants. The range in price indices data points is as a result of size (dbh), length and location. It reflects the upturn in log price seen coming through at the end of 2016. What is not so certain is that this price will continue upwards.

Competitive imports

Interestingly, on the continent things are developing differently and add to the likelihood of continued competitive imports coming in despite the exchange rate shift in the UK. The European Sawlog Price Index reached its lowest level in six years in the third quarter of 2016 because of lower sawn timber demand and reduced prices in both domestic and export markets, as reported in the Wood Resource Quarterly. Over the past two years, sawlog prices have fallen more in Europe than in any other region of the world. The Index has trended downward for the past few years and in 2016 has been at its lowest level since 2010. Much of the recent decline has been the result of reduced demand for sawn timber in some markets and generally lower prices in both domestic and export markets. During the past two years, sawlog prices (in Euro terms), have fallen the most in Finland, Norway, Poland, Austria and Estonia, all countries that are major exporters of softwood logs or lumber. The slowing demand for sawn timber in Europe has also resulted in a decline in log trade on the continent. WRI estimates that total trade of softwood logs will be down about 12% in 2016 as compared to the previous year and that shipments will be at their lowest level since the global financial crisis in 2008 and 2009. Some of the biggest declines in trade this year has been in exports from Norway, France, Ukraine and Latvia.

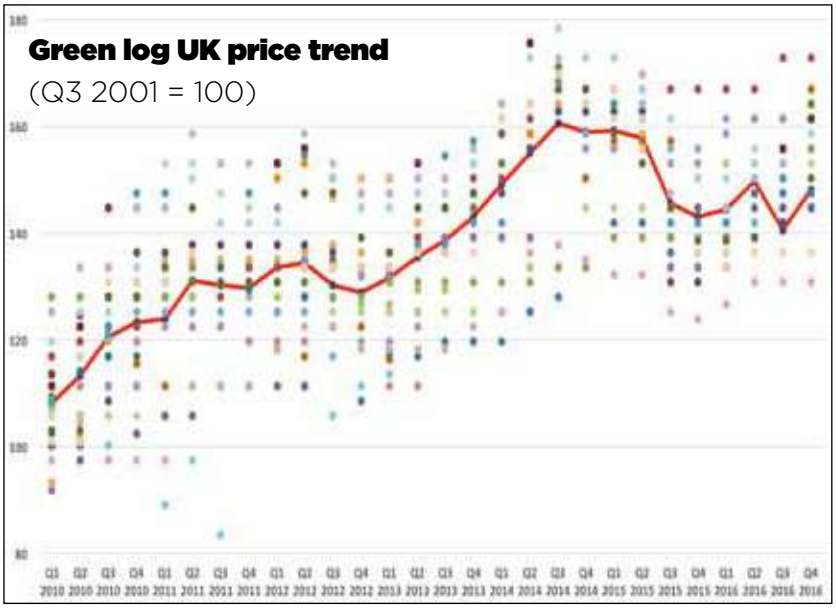
Small roundwood is currently slightly less exciting in the domestic market with most users being well supplied and Kronospan's woes not yet resolved and unlikely to be before the spring. So it appears that across the country there is a plentiful supply of small roundwood for biomass, pulp and chip. Again this mismatch in demand for logs and srw is a pattern that is repeating itself and one that was evident a couple of years ago when log demand was high and srw was difficult to move.

Standing sale prices have remained high and grower expectations continue to rise. There has been an increase in off market negotiations and this has impacted on the amount of timber coming to the open market which is not helpful to the trade in general. The usual early spring flush of standing sales is poorer than previous years and woodland owners would do well to present timber to the market whilst demand is up.

Looking ahead there are positive signs on house building activity and the UK construction industry enjoyed the fastest growth in new orders in almost a year in December, according to a survey, but the weaker pound has driven up firms' material costs to their highest in five-and-a-half years. The construction purchasing managers' index rose to 54.2 in December 2016 from 52.8 in November, signalling stronger expansion. Improving order books and a general rebound in business conditions helped lift construction output to the highest level since March, the report said. Housebuilding was the main driver behind construction growth again and grew at the fastest rate since January 2016.

The overall outlook on balance has to be considered positive, but the many uncertainties and changing market dynamics will ensure that successfully forecasting ahead remains a challenging task.

Peter Whitfield is a director at Tilhill Forestry Ltd.



A shifting scene across markets

TIMBER AUCTIONS MARKET REPORT
OLIVER COMBE

Global demand

2016 saw a steady increase in global demand for timber which resulted in a substantial increase in volumes traded compared to 2015. Increased demands for wood products in China and the USA have been the driving forces of increased trade. Whilst domestic production in the USA has increased steadily over the last 12 months the increased demand has seen a steady increase in imported volumes. China has seen record levels of imported timber in quarters 2 and 3 of 2016.There have also been modest increases in European and Asian demand.

Meanwhile, there has been a two-year period of readjustment of log prices worldwide; significant trends have been increasing log prices in the USA and Canada whilst prices in Europe and Scandinavia have fallen.

By the close of 2016 it appeared that this period of readjustment had concluded and log prices had stabilised in most areas and were starting to increase as global demand improved.

Whilst the wider world becomes more attractive for the Scandinavian and European producers the UK remains core business for many of them and despite adverse currency movements they are fighting hard to retain market share in the UK.

UK situation at the close of 2016

After the lull caused by the Brexit vote the UK market has steadily improved throughout the last six months.

The weak pound is beneficial to most wood using businesses as improved manufacturing and construction activity stimulates demand for wood products from pallet and packing material, fencing and carcassing timber through to board products.

The UK producers have experienced a definite upturn in demand over the last six months with a noticeably reduced seasonal slowdown in winter. January 2017 has seen most sawmills busy and actively seeking raw material.

Whilst demand for sawlogs has been excellent the small roundwood market has been severely impacted by the problems at Kronospan and whilst Kronospan are gradually increasing their roundwood requirement it is still well below normal levels.

This has caused a nationwide build up of stocks of small roundwood leading to reduced prices in Scotland and the North of England and static prices in the rest of England where the relentless increase of biomass consumption has maintained competition for supplies.

Where are we now?

England and Wales

January 2017 sees high stocks of small roundwood nationwide but strong demand for sawlogs and pallet wood.

Log supplies from the forest have steadily improved over the last six months to the point where in England supply is starting to balance with demand. Prices for standing timber in England and Wales remain excellent and good quality spruce / Douglas fir harvester / forwarder parcels in Wales and the Borders are now topping £40 per tonne standing. Prices for larch and mixed conifer logs lag behind by £5 to £10 per tonne depending on specification and location,

There is strong competition to buy from processors and still plenty of contractors looking for work which translate through to excellent standing prices for growers.

Spring 2017 would be an excellent time for growers to look to bring awkward and difficult sites to the market provided they have good sawlog content. Growers may wish to hold parcels with a high small roundwood content back for 3 to 6 months until the Kronospan situation has eased.

Currently the biomass market is holding demand and consequently prices for the small roundwood market up in England but as this demand declines in the spring we may see a readjustment of prices.

Scotland and North England

In the North increased production from the forest is easing the sawlog supply situation but there is still strong demand. The Irish mills have returned to UK market strongly and are very active along the West Coast of Scotland seeking supplies of sawlogs which has caused a steady increase in standing prices over the last six months.

Prices for standing crops appear to have risen more sharply than product prices, especially in the Scottish Borders and North England where there is intense competition to buy and prices of over £40 per tonne standing in some cases.

In some areas there has been a shortage of parcels being offered to the market for working in the spring at a time when processors are especially keen to secure raw material for the seasonal upturn in demand.

Sawlog prices, especially those for spruce, have increased steadily over the last six months and are hovering around £60 per tonne delivered for UK mills and £50 per tonne at quayside for export material to Ireland. Haulage costs and log specification can cause substantial variation in more remote areas and can make export an attractive option.

Export enquiries for other markets in Scandinavia and Europe may also emerge at current exchange rates especially when the seasonal upturn in mill activity starts to put pressure on supplies.

> Manufacturing and construction activity stimulates demand for wood products

£ per tonne delivered to customers in Wales, central and south England

Product	*Lower price*	*Upper price*	*Trend*
Log 18	£58.00	£63.00	↑
Bar 14	£45.00	£50.00	=
SRW	£38.00	£42.00	= ↑
Fencing	£48.00	£52.00	↑
H Wood firewood	£43.00	£48.00	↑

£ per tonne delivered to customers in north England and Scotland

Product	*Lower price*	*Upper price*	*Trend*
Log 18	£55.00	£65.00	↑
Bar / pallet 14	£40.00	£45.00	= ↓
SRW	£35.00	£40.00	= ↑
Fencing	£48.00	£52.00	↑
H Wood firewood	£40.00	£45.00	↑

These prices are for guidance purposes only and are based on historic market information.

Outlook for spring 2017

There is a mood of quiet optimism; the world appears to be coming to terms with Brexit without significant disruption to the UK economy. There is a school of thought that the UK government will try to keep the pound weak so they can reduce debt levels and the balance of trade deficit. A weak pound is beneficial to primary producers in the timber industry and it appears that the next six months will have good trading conditions for UK processors.

The reaction of the main importers to the UK is interesting; the Scandinavian mills are now using specification pricing to counter the competitive advantage of the UK mills in the C16 market. The Irish approach is much less subtle, it appears the pricing of sawlogs in the Irish Republic takes into account the Euro to GB £ exchange rate so that the Irish mills can remain competitive in the UK which is their primary export market. Whether this constitutes state support is a matter for Mrs May to resolve in the Brexit negotiations but it may prevent true market forces operating in the sawn timber market.

This has meant that the price for KD C16 carcassing has remained around the £165/m^3 mark over the last three to four months whilst the KD C24 carcassing from European and Scandinavian producers has increased to over £200m^3. The UK mills are fighting hard to achieve modest price increases, but it is hard won and small gains a bit at a time.

January 2017 has seen a renewed round of negotiations as the mills seek to increase sawn timber prices to catch up with recent increases in log prices.

Summary

Despite the uncertain times the background conditions appear set for a good spring and early summer season. It is uncertain how long the price increases of the last six months will continue as adjustments in the log prices in Europe and Scandinavia have now largely countered the currency movements. Imported timber will continue to determine the UK prices and we will have to react to these. In many parts of the country standing timber prices are approaching recent peak prices of early 2014 and growers would be well advised to bring their timber to the market early in the year whilst the demand and prices remain strong.

Demand for oak logs lifts hardwood sale

JOHN JENKINS NEWLAND RENNIE

There was a packed saleroom for the 29th Annual Hardwood Auction at Cirencester, last November. Those present witnessed a varied trade with standing sales proving more difficult to judge but an exceptionally good trade on oak logs producing a record price for these sales at £233/m³.

The Forestry Commission entered the largest number of lots but there were private growers' parcels from Staffordshire, Norfolk and Hampshire.

ⓘ **www.newlandrennie.com**

SAW LOGS

Oak saw logs were in strong demand with best log prices easily exceeding last year's demand and creating a new sales record of £233 per m³ for Salcey oak [1], purchased by Harrison of Kettering, which comfortably exceeded the previous record of £203 per m3. The other two Salcey lots [2] exceeded £180 per m³, both sold to Pontrilas.

Logs from Alice Holt made £188 per m³ to Northwood. Tilhill bought the Chiddingfold oak for the same figure.

New Forest oak logs [3] also met much better demand than last year with the best from Frame heath making £133 per m³, selling to Brooks who also purchased the Island Thorns oak for £128 per m³. Last year, oak from the same place made £110 per m³.

The main disappointment in this section was that 125 m³ of Sweet chestnut logs in Wyre Forest did not reach reserve.

Firewood met uneven demand, the best price being £43 per tonne from Westacre Estate, Norfolk.

STANDING SALES

Thirteen varied lots were on offer with four lots failing to achieve reserve. The clear message was that quality lots sold. The best of these was 1574m³ of quality thinning and clearfell (of which 360m³ oak and 970m³ larch) at Brackenhurst [4] and Marchington Woods near Uttoxeter, submitted by Matt Bracklehurst of Forwoods Forestry & Woodland Consultancy Ltd. The tree mean size was 1.4-5.3m³ for oak and .95–1.57m³ for larch. The whole lot achieved £60,000 and sold to Euro.

The other interesting sale was a thinning of beech (1.15m³ mean tree) at Savernake [5], which sold to Woodgate for £41 per tonne. The specification was very similar to a lot in last year's sale in the same Forest District which achieved £36 per tonne to the same purchaser.

Sweet chestnut met mixed response with a clearfell of 0.45m³ mean tree in Wyre, achieving £23 per tonne, whilst a large lot of mixed-size Sweet chestnut in the Dean (0.7 - 2.3m³) did not achieve reserve. Smaller oak sizes (.39m³) sold at £18.50 per tonne.

SOFTWOOD

Three parcels were on offer comprising fully mature Douglas fir and Corsican. The standing Douglas fir at Sned Wood in Mortimer, Salop topped at £57 per m³ or £488 per 8.5m³ tree and part of a former seed stand which was, interestingly, sold at auction in 1980 for £33.20 per m³ to 18cm TD.

SAVE THE DATE

Next year's sale:
30 November 2017. Enquiries to John Jenkins or Keith Spencer
Telephone 01600 712916

Forestry Woodlands Competition at Royal Cornwall Show
08-10 June 2017, Wadebridge
Entries close 03 March 2017
Competition classes:
Class 1: For new conifer, broadleaved or mixed woods of between 0.5ha and 20ha between the ages of 5 and 15 years old.
Class 2: For woods or compartments of woods of between 0.5ha and 20ha which have been renovated or are undergoing renovation from a neglected state within the last five years.
Class 3: For woods or areas of woods or significantly wooded parkland of between 0.5ha and 100ha of any age, the main objectives being environmental / conservation, landscape and recreation.
Class 4: For woods or compartments of woods of between 0.5ha and 20ha which were established over 15 years ago and which are managed primarily for their timber production. They can be of coniferous, broadleaf or mixed species woodland.
Class 5: For any business operating in Cornwall with the primary objective of using and adding value to round timber produced in the county.
Forestry Competition details from:
Terry Herron MICFor T: 01872 520325
E: therron@tregothnan.co.uk

Scotland's Finest Woods Awards
The 2017 Scotland's Finest Woods Awards are an annual recognition of excellence among those who use, own or manage Scotland's woods and forests - and a celebration of their contribution to the wealth and well-being of communities.

Applications are now open for 2017, with trophies and almost £7,000 of prize money to be won. There are seven awards in four categories and entries are accepted up to 31 March 2017.

Next steps for enhancing natural capital and biodiversity in Scotland
01 March 2017, Edinburgh
Confor's Stuart Goodall will be among the speakers.

Trees, People and the Built Environment 3
05 April, 2017, Birmingham
Early bird booking open now.

Next steps for natural environment policy in England
27 April 2017, London
Westminster Energy, Environment & Transport Forum Keynote Seminar. Read more

Confor Woodland Show 2017 (change of date!)
07/08 September 2017, Longleat Estate.

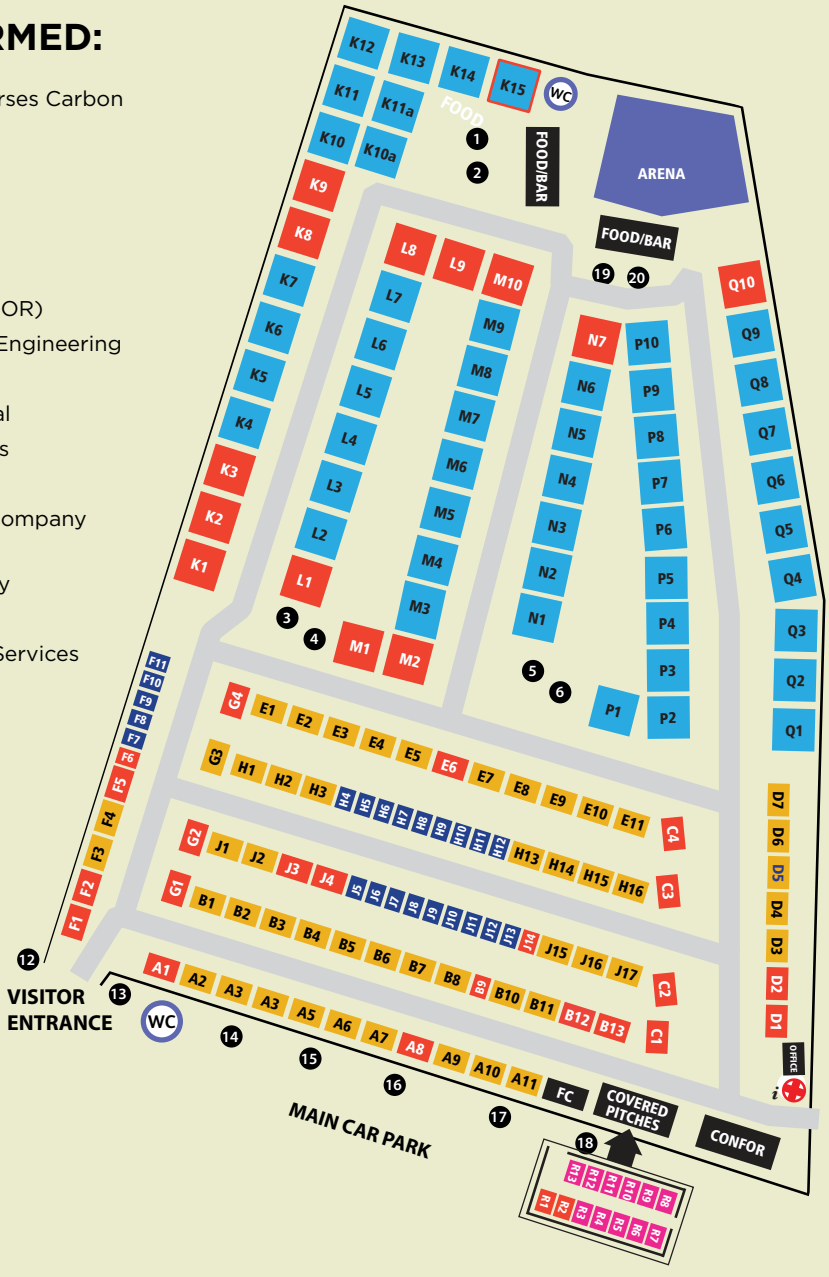
Confor
Promoting forestry and wood

WOODLAND SHOW 7th-8th SEPTEMBER 2017

LONGLEAT ESTATE

EXHIBITORS ALREADY CONFIRMED:

Eldfast & Ecco Stove
Sorbus International
Paul Vidgen Forest Machines
Growi UK
The Ratchet Shop
Cheviot Trees
Alba Trees
Tipmaster
John Clegg & Co
Heathwood Nurseries
Först Wood Chippers (Redwood Global)
Pear Technology
Reeds
Paul Helps Ltd (Avant)
Wiltshire Friendly Society
Pryor & Rickett Silviculture
Global Recycling Solutions
Woodmizer
Positioning Resources
Euroforest (SILVER SPONSOR)
Simon Richard
Loxston Groundcare
Forestry Journal
Autoguide Equipment
Logosol
Greenmech
Lamberhurst Engineering
Winchester Garden Machinery
Landpower Machinery
Riko
Swainsford Heavy Horses Carbon Compost
Rainbow Professional
MP & KM Golding
Ryetec
Wilson Machinery
Tilhill (SILVER SPONSOR)
Marshall Agricultural Engineering
Approved Hydraulics
EuroGate International
Cumberland Platforms
Tubex
Anglo American Oil Company (SILVER SPONSOR)
Royal Forestry Society
The Woodland Trust
Caledonian Forestry Services
Steel Viper



PLEASE NOTE CHANGE OF DATE TO 7 AND 8 SEPTEMBER 2017

2017's leading UK forestry event returns to Longleat on 7 and 8 September.

To book your stand or to find out about other promotional opportunities, call

Chloe Hine on 01502 725835 or
Chloe Francis on 01502 725844
or email chloe.hine@micropress.co.uk

NB This map is intended for information only and is not to scale

COLIN PALMER

2017 review of available herbicides and insecticides

Prior to the implementation of the EC pesticide regulations UK foresters had the use of some 30 approved herbicides – remember Gardaprim, Casoron, Velpar, Arsenal and Garlon?

At the time of writing this list was reduced to six – and will be reduced to five in just a month's time.

And with the EC review process getting ever more onerous it is not inconceivable that crop establishment will have to be managed without the aid of herbicides before the end of the decade.

However, that is for the future, so what are the options currently available for 2017? The following summary provides the details.

GRASS CONTROL – FORESTRY

Cycloxydim eg Laser
FSC√ PEFC√ Approved to November 2019*
Safe to trees at all stages, but only active on fast growing grasses. Ineffective on Nardus, Molinia, Juncus and some fescues. * Current UK appraisal may remove or restrict forestry use before 2019.

Glufosinate ammonium eg KurTail
FSC x PEFC √ Approval ceases 28 February 2017.
Effectively can no longer be used as period of use commences after date of final use. Dispose of using an approved waste disposal contractor.

Glyphosate eg Roundup ProActive
FSC√ PEFC√ Approved to June 2018
Subject to EC review. A large number of glyphosate products containing tallow amines including Glyfos and Clinic Ace are being phased out due to regulatory concerns. No list of withdrawals published to date.

Propaquizafop Falcon
FSC x. PEFC ffl. Offlabel approval to May 2022.
Safe to trees at all stages. Approval restricted to one application at half rate (0.75l/ha), so really only of value on seedling grasses in forest nurseries and farm woodlands.

Propyzamide eg Kerb Flo
FSC x. PEFCC√ Approved to July 2017
Winter applied residual herbicide. Not effective on coarse grasses of rushes, Sedges only partially controlled.

BRACKEN CONTROL – FORESTRY

Asulam Asulox
FSC√ PEFC√ Emergency approval expected for use from 1 July to 31 October.
Approval conditions expected to be as 2016, so aerial use and use through tractor sprayers. Although knapsack sprayer use is approved, the requirement of 1000l/ha water volume without runoff is not attainable.

Glyphosate eg Roundup ProActive
FSC√ PEFC√ Approved to June 2018
Useful for spot treatment through knapsacks or pre planting on dense infestations.

HERBACIOUS WEED CONTROL – FORESTRY

Clopyralid eg Dow Shield 400
FSC√ PEFC√ Approved to October 2020
For the control of thistles. Will also kill clover. Generally safe to the crop.

No other herbicides now approved other than glyphosate.
A new selective herbicide / scrubkiller is expected to be approved later in 2017.

INSECTICIDES - FORESTRY

Pre treatment Hylobius Control in the forest nursery

Alpha - cypermethrin Alpha 6ED
Approved to January 2020.
Applied through the electrodyne applicator and still very effective. However, the approval of all synthetic pyrethroids is threatened by EC rulings on endocrine disrupters, so the product may be revoked prior to 2020.

Acetamiprid Gazelle SG
Offlabel approval to October 2019.
Commercial use had demonstrated that this is a very effective insecticide against the weevil.
Acetamiprid belongs to the neonicotinoid group of insecticides, which is under severe political pressure due to concerns over bee health. However within this group, acetamiprid has the best bee safety profile, so may remain even if other similar insecticides are withdrawn.

Imidacloprid Merit Forest
Approved to January 2022
A usefully persistent neonicotinoid now available commercially for transplant protection after many years of use in Scandinavia. The continued approval of this product is less secure - although interaction with bees from this use is highly unlikely. Available though Alba Trees.

Continued on p61

Continued from p59

Post planting hylobius treatments

Acetamiprid Gazelle SG
FSC√ PEFC√ Offlabel approval to October 2019.
Best used following Alpha 6ED treatments to minimise the potential for insecticide resistance.
High level of operator tolerance. Two applications per year permitted.

Cypermethrin Forester
FSC√ ** PEFC√ Approved to April 2020
Continues to be a very effective part of the control programme. Use in FSC certified forests currently under a derogation will cease in October 2017. Three applications per year permitted.

CATERPILLAR CONTROL FOR PINE MOTH, PINE LOOPER AND PROCESSIONARY OAK MOTH ETC

Diflubenzuron Dimilin Flo
FSC√ * PEFC√ Approved to December 2021
A chitin inhibitor - prevents moulting leading to death.
Control of lepidoptera only - all other insect species unaffected. One application per year. Aerial use & hand held use permitted.

Bacillus thuringiensis Dipel DF
FSC√ PEFC√ Offlabel approval to March 2020
A biological insecticide injested by the caterpillar. No limit on the number of applications.
Control of lepidoptera only - all other insect species unaffected.

FUNGICIDES IN FORESTRY

Phlebiopsis gigantea PG Suspension
FSC√ PEFC√ Approval to March 2019
Biological control of fomes. Maximum shelf life of product is 7 months

Urea Urea
FSC√ PEFC√ Termed a "Basic Substance" with no approval.
A nitrogenous fertiliser used for the control of fomes.
See Forestry Commission literature for dilution rates.

MAMMAL CONTROL

Aluminium ammonium sulphate Sphere ASBO
FSC√ PEFC√ Approval to December 2021
A deterrent against rabbits, hares and deer. Effectiveness relies on the build up of "avoid" memory in the target species. Not rainfast.

Aluminium phosphide Talunex
FSC x. PEFC√ Approval to February 2022
For the control of rabbits using pelelts activated by moisture. Operator certification required prior to use.

FARM WOODLAND HERBICIDES

Farm woodlands are defined as new plantings on ex arable or improved grassland fields.
All products used in forestry may be used in farm woodlands plus the following:

FOLIAR HERBICIDES

2,4-D Depitox
FSC x. PEFC√ Offlabel approval to December 2018
For inexpensive control of thistle, buttercup, ragwort, dandelion and a number of annual weeds.

Amidosulfuron Eagle
FSC√ PEFC√ Offlabel approval to June 2021
A sulphonyl urea herbicide active on cleaver. Reasonably tolerated by the crop.

Carfentrazone - ethyl Shark
FSC√ PEFC√ Offlabel approval to January 2019
A contact herbicide which dessicates annual broadleaved weeds. Avoid contact with the crop

Florasulam Boxer
FSC√ PEFC√ Offlabel approval to June 2018
A sulphonyl urea herbicide active on a number of annual weeds including cleaver, plus hogweeds.

Fluazifop - p methyl eg Fusilade Max
FSC x. PEFC√ Approved to December 2021
Safe to trees at all stages, but only active on fast growing grasses. Ineffective on Nardus, Molinia, Juncus and some fescues. Knapsack use permitted (EXCEPT in Christmas trees).

MCPA eg Agroxone
FSC√ PEFC√ Offlabel approval to April 2020
For inexpensive control of thistle, buttercup, ragwort, dandelion and a number of annual weeds. Application through hand held use prohibited.

Metsulfuron methyl Jubilee SX
FSC√ PEFC√ Offlabel approval to December 2018
A sulphonyl urea herbicide active on docks and hogweed.

Tribenuron - methyl Quantum SX
FSC√ PEFC√ Offlabel approval to April 2020
A sulphonyl urea herbicide active on a range of annual weeds.

RESIDUAL HERBICIDES

Flumioxazine Digital
FSC√ PEFC√ Offlabel approval to June 2018
Inhibits the germination of a number of annual broadleaved weeds with limited action of grasses.

Isoxaben Flexidor
FSC x*. PEFC√ Offlabel approval to December 2021
Highly residual herbicide which inhibits the germination of a number of annual broadleaved weeds with no activity on grasses.

Napropamide Devrinol
FSC√ PEFC√ Offlabel Approval to December 2021
Later winter applied herbicides which inhibits the germination of a number of annual broadleaved weeds with limited action of grasses.

Pendimethalin eg Stomp Aqua
FSC x. PEFC√ Offlabel approval to January 2020
Highly residual herbicide which inhibits the germination of a number of annual broadleaved weeds with limited activity on grasses.

* On revised FSC list yet to be adopted.
** Until FSC derogation ceases

Notes:
i. All users must now hold a PA1 plus PA2 / PA6 operators certificate.
ii. A copy of the appropriate autorisation (EAMU) must be downloaded from https://secure.pesticides.gov.uk/offlabels/search.asp before applying any offlabel pesticide.

Pulling power

SEVEN OF THE BEST PICKUPS FOR TOWING

LIAM CAMPBELL

Towing is big business when it comes to pick-up trucks with an estimated 78% of vehicles at three years being fitted with a tow bar. This is especially true in the forestry sector, with many operators using trailers to transport machinery to the site and waste off the site.

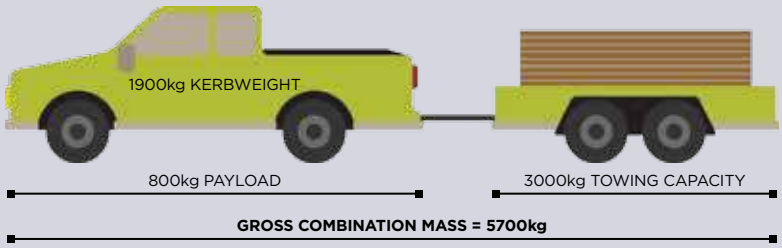
With the long-running workhorse, the Land Rover Defender, now in retirement, many heavy-duty operators are examining the market for their next tow vehicle. Pickup trucks are the ideal candidates and, while there has been an industry shift towards higher towing capacities, many fall short of the Defender's 3.5-t benchmark.

In the article, we examine the weight limits that each pickup truck is capable of pulling, taking into consideration other important aspects like pin weight, gross combination mass, engine torque, etc.

One area where a lot of operators are tripping up on is gross combination mass, which is the limit put on the weight of the vehicle, trailer and all of their contents (including occupants, fuel and lubricants).

HOW IT ADDS UP

PAYLOAD = GROSS COMBINATION MASS less TOWING CAPACITY less KERBWEIGHT



Liam Campbell is Editor of *Professional Pickup & 4x4* magazine.
For more expert advice on pickup trucks, follow on Twitter (@propickup4x4) or 'like' on Facebook (www.facebook.com/pro.pickup.4x4).
www.pickupand4x4.co.uk

Isuzu D-Max [1]
• 3.5-t towing
• 5.95-t GCM
The Isuzu D-Max is the best pickup for towing, in terms of the amount of weight left over for payload when towing 3.5-t. Although the gross vehicle mass is 50kg less than the Ford and Volkswagen Amarok, the Isuzu D-Max weighs around 200kg less than both models, which means there's still a payload of around 500kg when towing the full amount. The 2.5-litre engine also provides up to 400Nm of torque.

Volkswagen Amarok V6 [2]
• 3.5-t towing
• 6-t GCM
The Volkswagen Amarok performs very similarly to the Ford Ranger in terms of towing. There is a 3.5-t towing capacity (up from 3.2-t on 2011-2016 Volkswagen Amarok models), a 6-t gross combination mass and there's a gutsy 3-litre V6 which provides more torque than any other pickup truck (550Nm) but, just like the Ford Ranger, the Volkswagen Amarok is very heavy which eats into the payload and leaves around 200-300kg when towing the full amount.

Ford Ranger [3]
• 3.5-t
• 6-t GCM
Apart from a redesigned front-end and new technology, there were very few amendments made to the 2016 Ford Ranger – but why would you? The Ford Ranger was the first pickup to offer a 3.5 tonne towing capacity in the UK and it comes with the option of a powerful 3.2-litre five-pot engine which, until the launch of the Volkswagen Amarok V6, was the most powerful and torquey pickup (200hp/470Nm). However, the Ford Ranger is heavy so, even with the 6-t GCM, there is very little room left for payload.

Nissan Navara [4]
• 3.5-t towing
• 5.91-t GCM
The Nissan Navara broke the mould when it was launched with coil, multi-link suspension in 2016. This arrangement was chosen thanks to the superior ride and comfort that coil suspension can offer, but they toughened the springs and joints so that practicality wasn't compromised. However, there are still concerns with how multi-link suspension will cope after many years of strenuous towing.

Toyota Hilux [5]
• 3.5-t towing
• 5.85-t GCM
Despite their reputation as a rugged workhorse, the Toyota Hilux has never been a strong performer when it comes to towing. The 2016 Toyota Hilux has a towing capacity of 3.5-t (homologated up from 3.2-t) but the gross combination mass of just 5850kg. Given the heavy kerb weight of 2150kg, this leaves between 150kg and 200kg for extras like a hardtop, passengers, bullbars, and any load in the back.

Fiat Fullback [6] and **Mitsubishi L200** [7]
• 3.1-t towing
• 5.8-t GCM
Many were surprised that the new Mitsubishi L200 and Fiat Fullback only came with a 3.1-t towing capacity when they were launched in 2015 and 2016 respectively. They're the only all-new pickups to be launched in the past five years not to feature a 3.5-t towing capacity, despite having an impressive 5.8t gross combination mass and a 120kg pin weight.

SsangYong Musso [8]
• 3-t towing
• 5.8-t GCM
Despite rapid improvements made to the practicality of the SsangYong Musso in 2016, its towing capabilities are still pretty poor when compared to its rivals. The towing capacity of the 2016 SsangYong Musso Sports is rated at 3-t (up from 2-t of the SsangYong Korando Sports). The pin weight is rated at 117kg and the new 2.2-litre engine provides torque of up to 400Nm from 1400 to 2800rpm.

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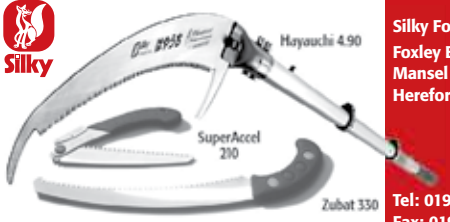

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FORESTRY IN PICTURES

Chloe Hine, née Stockdale, walks with her husband Shane in the beautiful winter woodland of Henham Park after their wedding on 29 December 2016. Chloe is advertising manager for FTN and the Confor Woodland Show.

Many think that the perfect place for a December wedding is a far-away tropical paradise. But we often underestimate the mesmerising appeal of a beautiful local woodland – even on a cold winter's day. The photographer did a great job at using the uniform pattern of tree stems and leave litter as the perfect stage for the bride and groom.

Henham Park, close to the Suffolk coast, is famous for hosting the Latitude Festival and the Grand Henham Steam Rally.

Photo: www.markewelsphotography.com

Want to see your picture here?

Forestry in Pictures is a new regular feature in FTN. For every issue, we will select the most impacting photograph sent by a reader.

If you have a photo you want to be published on this page, please send your file to

Stefanie.kaiser@confor.org before 15 March 2017. Please include your name, brief description of yourself and the picture and a credit.

Photos should relate to forestry and timber and be of high-quality (minimum resolution 300dpi).

Exceptional pictures might be considered for the front cover of a future FTN issue.

By submitting a picture to Forestry in Pictures you give Confor permission to use the file for non-commercial purposes in Forestry and Timber News or the Confor website. Photos will always be credited.

COMING UP IN APRIL – GET INVOLVED

In FTN April we will focus on Professional Services and on Learning, Skills and Research. If you would like to suggest an article for these features, please contact the editor before 28 February. If you are a Confor member and would like to put yourself forward for a member profile, please email us with a brief outline of what aspect of your business you would like to feature.
Don't forget that your opinion counts. If you would like to comment on any of the articles published in this issue, please don't hesitate to send a letter to the editor. We will do our best to publish them in the next issue of Forestry and Timber News
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