

CASE STUDY FROM SUCKLERS TO FORESTRY

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BIOMASS LEADERS PROFILE OF WORRELL HARVESTING >> SEE PAGE 76

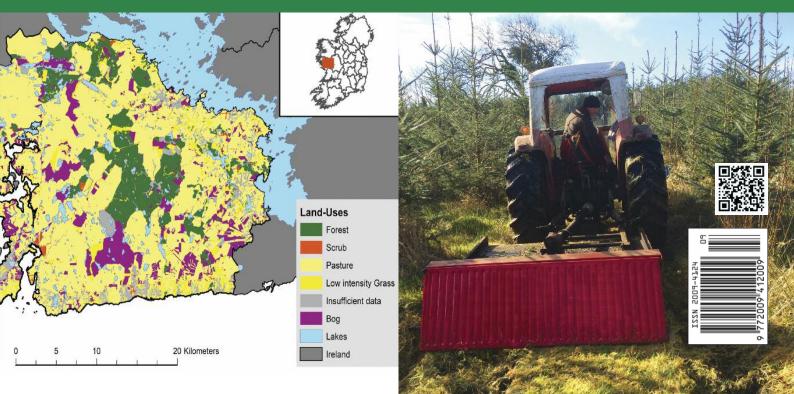


APF EXHIBITION 2018 RAGLEY ESTATE, SEPTEMBER 20-22

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Forestry Energy

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Volume 8 Issue 2 Autumn/Winter 2018 Foreword

elcome to the Autumn/Winter Edition of Forestry & Energy Review Magazine.

Sucklers to Forestry: In this Issue, Noel Kennedy of Teagasc Forestry discusses with Paddy Rhatigan the positive impact it has made to his life by switching most of his land use from sucklers to forestry. His work life balance and his income are much improved. For those considering change it is well worth reading.

ALTERFOR: As we all prepare for, and see the effects of climate change on a more regular basis, the team from UCD have been conducting research into "alternative forest management types". In western peatland forests it is suggested that there would be a transfer from Sitka spruce to lodgepole to reduce the impact of fertilization on establishment.A detailed and interesting article.

Native Woodland Regeneration: Declan Little of Woodlands of Ireland gives an in-depth account of the various options available to landowners under a number of different schemes, with increased incentives.

Innovation At Interforst: Tom Kent visited Munich for this Trade Fair which had 450 exhibitors from 28 countries. He even found an exhibitor from Ireland www.go2mill.com which have developed a chainsaw attachment to cut roundwood into dimensioned boards.

Biomass: It appears that private operators are moving ahead of the curve in the supply of biomass. Worrell Harvesting recently took delivery of a second chipper which will enable them to process seventy to one hundred thousand tonnes of woodchip per annum.

APF 2018

The largest forestry exhibition in the UK is again being held at Ragley Hall in Warwickshire on the 20/21/22 Sept. We are sure that Ian Millward and his team will deliver a professional show to remember.

Please visit us at Stand D13.

We trust you enjoy reading this publication which will continue to provide a voice for the Forestry and Energy sectors.

Until the next time.....

The Publisher Forestry & Energy Review

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Can new types of forest management provide a more appropriate mix of ecosystem services from Ireland's future forests?" By Anders Lundholm, Edwin Corrigan, Charles Harper and Maarten Nieuwenhuis of UCD.

30 NATIVE WOODLAND EXPANSION & **MANAGEMENT**

Considerable planning and management expertise in native woodland management has been developed in the past two decades, writes Declan Little.

36 INTERFORST 13th TRADE FAIR AND CONFERENCE FOR FORESTRY AND FOREST TECHNOLOGY

The development of new technology in the management, harvesting and end use of forestry products was very much the theme at interforst, writes Tom Kent.

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The APF Exhibition is the place to be if you sell machinery, equipment and services into the forestry, woodland, arboricultural and fencing industries.

44 A NEW WAY TO GROW

Paddy Rhatigan has found that forestry gives him as much job satisfaction, and a better work-life balance than sucklers. His income is higher too. Noel Kennedy, Teagasc Forestry Development Officer, reports.

52 GRANT AID FOR GROWING TREES FOR WOOD ENERGY

The Afforestation Scheme offered by the Department of Agriculture, Food and the Marine, includes a range of options (Grant and Premium categories 'GPCs') for landowners considering planting forestry.

58 FOREST TRAINING AND MACHINE OPERATOR TRAINING

All stages of the forest cycle are included in the course content at Ballyhaise College from nursery and establishment to thinning, harvesting and reforestation, writes Marianne Lyons.

60 FORESTRY AND ENVIRONMENT AWARENESS AND CAREERS DAY

Ballyhaise College would like to thank all the participants in their recent open day which was both enjoyable and informative, by Kevin O' Connell.

76 WORRELL HARVESTING LEADING THE WAY IN WOOD BIOMASS

Forestry & Energy Review visit Worrell on site near Tullamore to witness new developments in this fast expanding enterprise.

82 THE EU TIMBER REGULATION (EUTR) The EU Timber Regulation, or EUTR as it is also known, is

an important tool in the fight against illegal logging. Noel O'Connor (DAFM) discusses.

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THE TRAILBLAZERS IN SUSTAINABLE SOLUTIONS

Settled on the outskirts of Chipping Campden, in the heart of the picturesque Cotswolds; SDL Solutions (formerly known as SDL Biomass) offers a 360-degree service in the production and supply of biomass wood fuel. We have over ten years' experience in the field, specialising in the production of biomass fuelwood through to the design and installation of biomass heat and power systems - delivered by our team of inhouse trained experts!

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articulated lorries and machinery, we will help you get to the root of your problems and forestry projects.

We have thoughtfully designed and installed on our site two cutting edge and revolutionary, cutting and drying facilities; catering for all biomass systems – we are the pioneers of renewable energy with sustainable solutions! We also now have a large-scale CHP system for the production of 100% UK sourced premium wood pellets – being one of the first of its kind in the United Kingdom! We are working towards a greener environment, by collecting sawmill residue which would have been wasted off and turning it into an environmentally friendly product! A product which is multi functioning – it can be used for biomass, horse bedding or even cat litter!!

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For more information please visit our website www.sdlsolutions.co.uk or visit us via our social pages.

NEWS

VISIT BY WATERFORD FOREST OWNERS GROUP

In June, the Waterford Forest Owner Group (WFOG) visited the mature woodland belonging to the Chavasse family in Dungarvan to look at pre-clearfell timber stands – the ultimate goal that all forest owners should be striving for!! Site suitability and management of Douglas fir and thinning intensity options with regard to Sitka spruce was discussed by the 23 forest owner strong group. There was a lively debate on the merits of continuous cover forestry versus clearfell of a mature Sitka spruce stand. There was also contributions by the Irish Wood Producers and by harvesting contractors in the audience which led to a very useful exchange of views. The hosts of the event, the Chavasse family, must be thanked for showcasing their timber stands and for sharing their very valuable experiences of managing their varied woodland. The event was organised by John Casey, Teagasc forestry advisor, in conjunction with WFOG.





HIGH FOREST FIRE RISK - STAY VIGILANT!

With the recent prolonged dry and warm weather there have been several forest fires around the country and there is an ongoing high to extreme risk of forest fire. Teagasc is concerned about the potential serious losses for farm forestry owners and impact on the local community and advises the following precautions.

Reduce the risk!

- All forest owners and managers are again advised to prepare for likely outbreaks of fire.
- Be aware of the Forest Fire Danger Notices*
- Be vigilant! Forest owners should be particularly vigilant during the high risk period. Fire patrols may be warranted in known fire hotspots. Be particularly vigilant at Bank Holiday weekends where high risk weather is forecast.
- Cooperation between neighbouring landowners is critical to successful fire prevention. Forest owners should discuss their concerns about fire with neighbouring landowners in advance of the fire season.
- Walk your forest and remove dead vegetation and other flammable material including litter along vulnerable boundaries such as public roads and passes into worked bogs and bogs in general.
- Fire lines, Fire Plans, fire suppression equipment should be reviewed and made ready.
- Check that you have the telephone numbers for the local fire brigade, local Garda station, forester/forestry contractors, Coillte foresters, neighbours etc.
- Ensure that your forest is properly insured against fire.
- Watch for illegal burning of vegetation and report this to the Gardai. If a forest fire starts:
- Report all fires immediately to the Fire and Emergency Services via 112/999.





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- DO NOT try to put out the fire yourself forest fires are unpredictable and dangerous!
- Help the emergency services by providing a map of the forest showing the layout, access points, internal access and where water is available
- Alert your neighbours

* FOREST FIRE DANGER NOTICES

Forest Fire Danger Notices are issued during the main wildfire risk season from February through to September. These notices provide forest owners and managers with advance warning of high fire risk weather conditions, and permit appropriate readiness measures to be taken in advance of fire outbreaks.

Forest Fire Danger Notices are generally based on daily Met Eireann Fire Weather Index (FWI) and European Forest Fire Information System (EFFIS) outputs, with additional processing and daily analysis by DAFM, in conjunction with other relevant agencies. Like other forms of weather warnings they are colour coded. Increasing levels of preparation and vigilance are required as the



risk levels scale from Green through to Red. Forest Fire Danger Notices and further information on forest fires is published on www.teagasc.ie/forestry.

The Forest Fire Danger Rating is divided into four colour coded condition risks ranging from the lowest danger rating Condition Green to moderate risk Condition Yellow to high risk Condition Orange to extreme risk Condition Red.

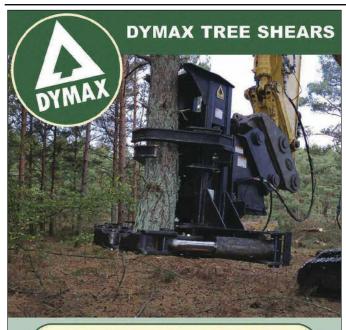
AWARD WINNING FOREST BOOSTING FARM VIABILITY

Andrew O'Carroll has never regretted the decision to plant 19ha of his north Kilkenny farm. The move was very publically endorsed when he won the RDS/Teagasc Farm Forestry Award in 2017, but, more importantly, it has benefitted his farm business on a number of fronts.

"I was in the privileged position of being able to lease good ground in its place, so I can put my inputs into the good ground, facilitated by the premiums from the forestry," Andrew explained. The forestry is also a fast developing family pension pot that he maintained was "well ahead of schedule".

Andrew runs a 56ha suckler farm at Rathcash, Clifden, Co Kilkenny with 26ha of the land rented. In conjunction with forester Mick Power, he planted 19ha in 2005 on three parcels of out-farm he had inherited. The planted parcels were on wetter ground which had a shorter grazing season and presented regular difficulties for farming.

"Tractors have got stuck, animals have got stuck, one would be thinking in the springtime: when will I get out there,"Andrew explained. "I spread lime on the land in the month of April and didn't mark it, but the previous June, cattle could be going to their knees in it," he maintained. Ironically, this part of north Kilkenny is one of the



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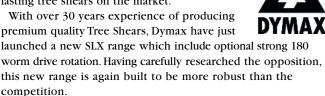
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CLEARING BUFFER AREAS AROUND SITES AND MONUMENTS WHICH MAY HAVE BECOME OVERGROWN



An Roinn Talmhaíochta, Bia agus Mara Department of Agriculture, Food and the Marine For up-to-date and detailed information on forestry grant schemes, visit https://www.agriculture.gov.ie/forestservice/grantsandpremiumschemes2015-2018/

For contact details of your local Teagasc Forestry Advisor visit www.teagasc.ie/forestry.



NEWS



highest yielding locations for tree growth in the country. This was proven by Andrew's plantation, where the trees have practically "jumped out of the ground". The forest has been highly productive and will reach first thinning stage in 2019, at age 14.A second thinning is scheduled to be completed before his final forest premium (20 year cycle) is received. The growth potential of the forest indicates it can achieve commercial timber sizes within 30 years.

The strong performance of the plantation has also transformed Andrew's attitude to the 19ha section of the farm. He admits that he can "pass up there now in a completely different frame of mind" and is "looking out at something that's going to provide a valuable income in time to come".

Andrew's farm now carries almost 50 suckler cows and planting the wetter sections of the holding has also helped generate a valuable income stream, while easing the overall management of the farm.

"The practical running of the day-to-day farm has been greatly helped by having leased ground available, as well as my farm forestry providing an income source," he explained.

Terry Carroll, Andrew's Teagasc drystock advisor, says the decision to plant the farm's marginal ground has been correct and that that the combination of suckler cows, GLAS and forestry are complementing

each other. "It is great that there are schemes such as the forestry initiative which provide good support measures as well as premiums and planting grants," he said.

RDS Forestry and Woodland Awards

Applications for the 2018 RDS Forestry and Woodland Awards recently closed. The RDS Forestry and Woodland Awards celebrate the best forests and foresters in Ireland - they are Ireland's National forestry awards. They recognise and reward farmers and woodland owners who are employing the principles of Climate-Smart Agriculture on their properties including sound commercial management, environmental protection, and encouragement of bio-diversity.

The awards also promote the economic and environmental benefits of good forestry and farming. All woodland owners and managers, large or small, are encouraged to enter the awards as all woodlands are of merit. There are four award categories which can be entered - Production forestry, multipurpose forestry, the new Teagasc Farm Forestry Award and Community Woodlands.

STRONG TEAGASC FORESTRY PRESENCE AT MAJOR FARMING EVENTS

There was a strong Teagasc forestry presence promoting afforestation at a number of recent national Teagasc farming events attended by over 25,000 farmers. Teagasc Forestry Development Department had stands at three large Teagasc public events – Beef 2018 in Grange, Co. Meath, Open Source Sustainable Dairy Farm Open Day, Kildalton, Co. Kilkenny and Sheep 2018 Farm to Fork in Athenry, Co. Galway. With such large numbers of farmers, forestry advisers and researchers were busy providing a range of information on afforestation and other forestry schemes and topics. The stands were well equipped with extensive information and screens showing the latest Teagasc forestry videos. The forestry stand at Sheep 2018 also included a demonstration agroforestry plot – complete with

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had been acting as a lubricant for Injectors and valve stems.

DPF's-Diesel Particle Filters: Minimising regeneration, minimising fuel usage and protecting DPF's is very efficient. As mentioned above protecting DPF's through the use of Dipetane is critical and very cost-effective. Dipetane treated fuel's unique ability to burn the carbon more completely, compared to all standard fuels means that much less un-burnt carbon enters the DPF and therefore the regeneration occurs less often. In some 6.8 Litre engines Dipetane's use has extended the regeneration from 70 hours out to over 200 hours. This is a substantial fuel saving and protects the DPF from the very high revs involved in the regeneration process.

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NEWS



ewes grazing contentedly among the trees - where farmers could get a better understanding of how the new agroforestry measure may fit into their farming system. One of those interested visitors was Minister of State Andrew Doyle TD who expressed his hopes for a strong uptake of this attractive afforestation measure that combines farming and forestry. Teagasc forestry staff are looking forward to meeting and advising farmers and forest owners in the Teagasc stand at the 2018 National Ploughing Championships, Screggan, Tullamore, Co. Offaly from 18th to 20th September 2018.

TEAGASC MANAGEMENT WALKS – FOCUS ON QUALITY MANAGEMENT OF YOUNG PLANTATIONS

The 2018 nationwide series of Teagasc spring management walks focussed mainly on managing young conifers plantations. Seventeen walks held during April and May attracted over 300 forest owners wishing to learn about the management challenges to establishing new plantations and how to overcome them.

In association with DAFM the walks were mainly targeted at conifer plantations less than four years old where the small tree faced a range of threats to their survival. Ensuring their survival, promoting growth and ultimately the establishment of a healthy quality crop is the objective of effective early forest management.

A range of management topics were discussed with essential take home messages.

In summary:

- Vegetation control Effective early vegetation control during the first four years is critical for young trees and remain healthy, grow vigorously and establish successfully. Talk to your forester.
- Tree numbers Replace failures as soon as possible to maintain uniform forest development and avoid potential delays on grant and premium payments. Talk to your forester.
- Tree health Poor tree health needs to be identified early and remedial works carried out promptly to get young trees back on track. Talk to your forester.
- Frost damage Don't panic! In most cases trees will recover fully from frost damage. However be vigilant and if you notice new growth that is wilted and brown let your forester know.

The recent series of Teagasc forest management walks stressed the importance of active owner involvement





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JOHN DEERE 910G AND 1010G FORWARDERS AVAILABLE IN MULTIPLE CONFIGURATIONS SUPPLEMENT THE G-SERIES LINE-UP. IBC ALSO AVAILABLE FOR CF5 BOOM

The small-class John Deere 910G and 1010G forwarders available with a number of options are also equipped with the G-Series' efficient and reliable automation and electrical systems. Now the popular and unique Intelligent Boom Control is available for the CF5 boom with both models. Producing more power and torque than its predecessors, the 4.5-liter John Deere 4045 engine meets Stage 5 emissions regulations that take effect at the beginning of 2019.

he efficient performance of the new models in all terrain conditions is ensured by the wide range of axle and tire options. The John Deere 910G is available in a 6-wheeled version with 34-inch tires in the front and 24.5-inch tires in the rear, or an 8-wheeled version with either 22.5- or 24.5-inch tires. The 6-wheeled John Deere 1010G with 34-inch tires in the front comes with two rear tire options: 24.5 and 26.5 inches. The 8-wheeled 1010G can be equipped with either 24.5- or 26.5-inch tires.

NEW DESIGN BRINGS COMFORT TO THE SMALL-CLASS G-SERIES FORWARDERS

The 910G and 1010G models share a new design. The engine space and the hood have been designed in collaboration with BMW DesignWorks. The engine hood has been lowered and the operator's visibility from the cabin to the work area has improved.

JOHN DEERE 910G

Has a load rating of 9 tons, and its excellent agility makes it ideal for first thinnings. The 910G is available with either six or eight wheels and with a narrow or wide load space with cross-section areas of 3.5 m² and 4.0 m². Choose either a fixed or a leveling and rotating cabin, and boom options include CF1 and CF5 with three different reaches. The engine has significantly more power (118 kW) and torque (650 Nm) than the previous corresponding size-class model, the 810E.

JOHN DEERE 1010G

Has a load rating of 11 tons. The engine has significantly more power (131 kW) and torque (730 Nm) than the previous 1010E model. The 1010G is available with six or eight wheels and with a narrow or wide load space (3.5 m² or 4.0 m²). The model can be equipped with either a fixed or a leveling and rotating cabin, and the CF5 boom has three different reach alternatives.

BOTH MODELS ARE AVAILABLE ALSO WITH A SHORT WHEELBASE

The shorter wheelbase has been achieved by moving the rear axle forward by 40 cm, thereby allowing the load space to remain

unchanged. The machine's stability remains good and its agility improves, which is beneficial particularly in thinnings.

JOHN DEERE 1010G IS AVAILABLE WITH THE LONG BOGIE VERSION

The distance between the front and rear wheel hubs in the rear bogie increases to 1890 mm, i.e. 390 mm longer than in the standard model. The power train and turning radius are the same as with the standard HD portal bogie-equipped machine. The ground pressure of



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the rear chassis equipped with tracks is 14% smaller compared to an ordinary bogie axel. The low ground pressure of the machine's front and rear chassis make the machine an excellent choice for logging on soft terrain. The tracks are shallower and the depression is smaller. The long bogie functions well also on normal terrain and brings stability when navigating over obstacles in rocky terrain.

EASY-TO-USE IBC ALSO AVAILABLE WITH CF5 BOOM

The boom control precision of the G-Series machines is unprecedented. New control modules, simple CAN busses, and streamlined electrical systems give the booms more power, speed and processing precision.

IBC is an intelligent boom control system with sensors that detect the positioning of the grapple and algorithms that adjust the boom's trajectory in one continuous motion. The operator guides the grapple to the desired position and the system optimizes the trajectories of the different sections of the boom. In the 2.0 version of IBC, the precision of the grapple control has been improved, especially in long reaches. Thanks to the electronic end damping, the boom operates softly. With the blow-like loads in the end positions eliminated, the operator's work is smoother and the boom's durability is improved. IBC makes load-handling more efficient and increases productivity by as much as one load per day. IBC has convinced also the experienced industry professionals: over 80% of Nordic customers choose Intelligent Boom Control for their machine.

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The 4.5-liter John Deere PowerTech Plus 4045 engine has the highest torque in its class. The engine's RPM range is wide and it

offers a lot of torque at low RPMs. The RPM remain steady also during big and rapidly changing loads. The better coupling of the powerful diesel engine with the power train results in a clear improvement in performance.

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Is a unique standard feature in John Deere's G-Series forest machines. The software-based control system improves the drivability and productivity of the G-Series machines.

The operator selects the desired setting (Eco, Normal, Power) for the operating conditions, and the system automatically adjusts the engine's RPMs to correspond with the engine load and keeps the RPMs steady also during high loads. During high-load situations, the new driveline control ensures that the diesel engine runs smoothly and uses the available maximum tractive force efficiently. The response of the drive pedal and the frame steering have been improved with smart electronic filtering.

TIMBERMATIC F-16

Control system features a configurable user interface, cruise control and inclination display. The new software version enables service personnel remote access to the machine. MECA control modules, simple CAN busses and a streamlined electrical system improve the efficiency of machine functions.

Our machines are also known for the unique rotating and leveling cabin that improves the operator's working conditions. It offers significant improvement both in the machine's productivity and in operator comfort by reducing vibration by as much as 30-50% during operation.



- Fire risk -To protect you and your forest in the event of a forest fire - Insure your forest. Fire lines, Fire Plans, fire suppression equipment should be reviewed and made ready.
- Afforestation grant and premiums Proactive and knowledgeable forest owners are in a much stronger position to protect their forest and financial interests.

Good plantation establishment lays the groundwork for the growth of potential high quality and high value forests in the longer term. A message of encouragement to owners to actively engage with their forest and forester during these critical early years of growth to ensure the best possible outcome for the plantations was strongly communicated and was well received.

HIGH PRICES PROMPT POSITIVE MOOD AT **TALKING TIMBER**

New Ross and Mountbellew were the locations for the two Talking Timber events organised by Teagasc in cooperation with the Irish Forest and Forest Products Association (IFFPA).

Talking Timber which combines a mini conference and outdoor timber display, together with a large trade stand area is now in its 5th year and still proves popular with forest owners and the timber buyers.

This year's event attracted over 250 forest owners who came to meet timber buyers and learn how to be market ready and so take advantage of high timber prices being offered at present.

Log and timber quality was the focus for discussion at Talking Timber during the popular outdoor log quality display organised by Irish Forest and Forest Products Association (IFFPA).

Timber buyers Sean Sheridan from Glennon Brothers and Aodan Kealy from Murray Timber stressed that from a timber buyer's

perspective it is important that forest owners' expectations are realistic when it comes to selling timber. This essentially comes down to knowing what you are selling and a critical aspect is the quality of your timber.

Sitka spruce logs were arranged into the different log categories based on size, quality and value. Sean and Aodan explained how logs become much more valuable as the forest becomes older and the crucial role of thinning to maximise timber value and to promote better forest health and stability.

With the current very strong timber prices on everyone's mind there was keen interest in the discussion around the high value commercial logs and in particular sawlog. The sawmills are looking for straight logs which will give the best conversion to finished product and the prices offered to forest owners will reflect this.

Not every log grows straight as Sean and Aodan noted and looking at examples of crooked logs they described these would be downgraded to a lower value product or rejected outright.

An impressive range of finished boards showed the potential of quality commercial Sitka spruce logs. The impact however of poorer quality logs was demonstrated in some boards where knotty timber can weaken timber causing boards to be rejected.

The take home message from Aodan Kealy was that the sawmills are ready and willing to buy quality timber. "We recognise that in the future most timber will come from the private sector so forest owners need to become active and prepared. Rest assured the sawmills won't be found wanting when it comes to buying your

Talking Timber is all about networking between forest owners and the forest industry and the presence of 28 industry stands



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WOOD-MIZER ACQUIRES SWEDISH MANUFACTURER OF 4-SIDED PLANER/MOULDERS AND RELATED WOODWORKING MACHINERY Popular woodworking machinery from MOReTENs AB is now available through Wood-Mizer's

global distribution network.



ood-Mizer has acquired the Swedish company, MOReTENs AB, placing a full range of popular 4-sided moulders, planers, table saws, spindle moulders, planer/thicknessers and CNC routers into Wood-Mizer's globally available product range. Founded in 1980, MOReTENs designs and manufactures a popular range of woodworking machinery which includes four-sided moulder/planer combination models, spindle moulders, and a workshop table saw. In addition, MOReTENs also supplies highend, CNC-controlled routers and log home building machinery.

"Throughout our history, Wood-Mizer has been committed to providing the best quality equipment to process logs into finished wood products," said Wood-Mizer President and CEO Richard Vivers. "The affordable and versatile moulder and planer product lines from MOReTENs have been proven worldwide for decades, and are now backed by the high-quality service and support network customers expect from Wood-Mizer."

The founder and owner of MOReTENs, Bo Mårtensson has joined Wood-Mizer as the General Director of the factory in Ostersund, Sweden. The factory in Sweden marks Wood-Mizer's fifth manufacturing plant throughout the world including three facilities in the USA and one in Poland.

"Many years ago, I was a young engineer with carpentry experience when I started MOReTENs and began building woodworking machinery," said Bo Mårtensson. "I'm proud to see my products in workshops worldwide, and now we are very pleased to be joining the Wood-Mizer team, which will see our existing products being available to a much wider customer base and will also accelerate our capability to introduce new products to meet our customers' needs."

The latest acquisition of MOReTENs builds on Wood-Mizer's position as a worldwide manufacturer and supplier of narrow band sawmills, now offering a full range of equipment that can seamlessly convert logs into dried lumber and finally into finished wood products - all backed by Wood-Mizer's expertise and commitment to excellent customer service.

Visit http://www.woodmizer-europe.com/products/planermoulders for more information on Wood-Mizer's new line of woodworking machinery.



NEWS

reflected the success of the Talking Timber model. The event programme was designed to give forest owners plenty of time and in an informal setting to network with a cross section of the industry - foresters, timber buyers, harvesting contractors and machinery suppliers as well as DAFM and Teagasc. This crucial element worked well with a great level of interaction between owners and the forestry professionals to inform themselves on how best to progress with selling their timber.

For the second year a number of forest research organisations including Teagasc, NUI Galway, Waterford Institute of Technology and UCD Forestry highlighted their ongoing research projects and how this is contributing to our knowledge of forest management and timber utilisation.

A short presentation from Teagasc outlined the steps involved in preparing for harvest. At the Galway event, Noel Kennedy, Teagasc Forestry Development officer explained; "Teagasc research has proven that thinning is highly beneficial to most forests resulting in a higher quality, higher value forest while also providing income before final harvest". Frances McHugh, also from Teagasc told the attendees in New Ross that "Forest owners must be market ready" to maximise the potential of their forest. She said, "every forest is different so each owner should know their own forest and should base harvesting decisions on specific characteristics of their forest".

Speakers from the Department of Agriculture encouraged owners to apply for felling licences early and include multiple harvesting operations to receive a 10 year licence. Luke Midleton reminded the Wexford audience that planning and constructing a www.Teagasc.ie/forestry

forest road sometimes requires a 2 year lead in time. Jim Hurley, representing IFFPA questioned why the actual harvest from private forests is falling well short of forecasted volumes. He recommended that forest owners should seek professional advice on harvesting and marketing timber from people who are active in this area every day.

Forest owners Tom Hickey from Waterford and Con Keigher from Roscommon presented their own experiences of managing and harvesting their forests. Tom Hickey said, "There is plenty of help available if you look for it; Teagasc, Forest owner groups and working with professional foresters". Con Keigher from Roscommon commented that "farmers are not foresters and we must understand how forestry works – above all plan ahead and give yourself plenty of time".

TEAGASC FORESTRY EVENTS 2018

August 12, 2018	Forestry & Sustainable Living Section at the Tullamore Show 2018	Tullamore, Co Offaly
August 21, 2018	Forestry presence at Energy in Agriculture event	Gurteen College, Co Tipperary
September, 2018	Broadleaf Management Day	ТВС
September 18-20, 2018	Forestry presence at the National Ploughing Championships	Screggan, Tullamore, Co Offaly
October, 2018	Conifer Thinning Day	Midlands
November, 2018	Workshop for Forest Owners Groups	TBC

For updated Teagasc forestry event information please see www.Teagasc.ie/forestry





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NEWS

APF 2018 NEWS

The UK's largest forestry, woodland, arboriculture, fencing and biomass show takes place next month.



FENCING IN THE 21st CENTURY IS A NEW FEATURE AT APF 2018

Recognising the importance of fencing in the woodland and farming sectors APF 2018 will feature a working area 'Fencing In The 21st Century' to showcase the very latest in machinery, equipment, materials and techniques. There will be regular daily demonstrations of machine and hand held postdrivers, strainer installation, the use of Gripples as well as Fast Fencer, a competition to find the fastest fencer to erect 25m of stock fencing. There will be opportunities to drop in and discuss any fencing query with experts.

SEMINARS WILL PROVIDE THE LATEST TREE HEALTH, PESTS & DISEASES & BIO SECURITY UPDATES

With many tree pests and diseases continuing to threaten UK's forests and woodlands the Forestry Commission will be hosting a series of seminars throughout the three days of the show on the progress of pests and diseases including Xylella fastidiosa and Ash dieback and the latest research on control and how to help avoid its spread and the biosecurity measures required.

There will be additional seminars on Woodland Creation, Ecological Site Classification, the new online Felling Licence system and the Role



afield as Spain, Czech Republic, Poland, Slovakia and even Mongolia with Will Lee seeking to retain his 2016 title. All competitors will have a piece of Redwood timber 2m tall x 1m diameter to work with. All sculptures will be auctioned on Saturday 22nd at 3pm.

STIHL TIMBERSPORTS RETURNS

The original extreme sport returns to APF 2018, with the STIHL TIMBERSPORTS® team demonstrating their speed and precision with axes and saws in the STIHL Arena. Never seen TIMBERSPORTS® before? This is your chance to see what the fuss is about, with the top British athletes going head-to-head in all six disciplines including the mighty Hot Saw, a super-charged chainsaw with chain speeds of up to 240km/h! The Roadshows will take place at 11am, 1pm and 3pm every day in the STIHL Arena, where the athletes will be warming up for the TIMBERSPORTS World Championship – it will be held on British soil for the first time this year when athletes from all over the world come to the Echo Arena Liverpool on 19th and 20th October. Don't miss it!

UK FORWARDER DRIVING COMPETITION

Komatsu and Barony college will once again be hosting the UK Forwarder driving competition at APF 2018. The competition will be taking place over all three days of the show to find the fastest and most

"The APF show is the place where the entire trees and timber sector gets together for their biannual gathering"

Of Genetics in Climate Change Adaptation. Confor will host two panel discussions; Fairplay For Forestry (Future land Use) on Thursday and Forestry and The Bio Economy on Friday.

PRACTICALLY EVERY FORESTRY, WOODLAND AND ARBORICULTURAL ASSOCIATION REPRESENTED AT APF 2018

The APF show is the place where the entire trees and timber sector gets together for their biannual gathering. Practically every industry association will be there including Confor, UKFPA, FC, RFS, ICF, FCA, Arb Association, Small Woods Association, FISA, Consulting Arborists Society, National Coppice Federation, UK Pole Lathe Turners and Green Woodworkers Association, The Woodland Trust, Lantra and NPTC. If there is anything you need to know about trees, timber woodlands, safety and training you can find the answers at APF 2018.

GREAT LINE UP FOR EUROPEAN CHAINSAW CARVING CHAMPIONSHIPS

There is another stellar line-up for this year's APF 2018 Chainsaw Carving Championships sponsored by AW Jenkinson and Tilhill Forestry. 25 of Europe's top carvers will compete in the 3 day competition for the European title. Competitors come from all over the UK as well as far

skilled driver. The competition will take place in a realistic woodland setting and will be a real test of an operator's skill, accuracy and dexterity as well as speed using the latest Komatsu equipment. Competitors will be able to enter on the day and the winner will be the fastest time over the three days once any penalty points have been deducted.

WORLD LOG-TO-LEG POLE LATHE TURNING CHAMPIONSHIPS RETURN TO APF 2018

On Saturday 22nd some of the top pole lathe turners around will compete for the famous silver rimmed Mazer trophy. If you have never seen this before it well worth watching. At the sound of the horn the turners grab a round ash log in a Monte Carlo style mass start and race back with it to their pole lathes. They then have to split it and then turn two identical chair legs using only leg powered lathes in the shortest possible time. They then race back to the start line with their legs. The fastest turners are expected to finish in less than 20 minutes although the fastest does not always win as their legs are then judged for accuracy, being identical and other faults. Heats will be held during the previous two days and there will be opportunities to have a-go if you fancy trying your hand at this traditional skill.

Keep up to date with the latest news at www.apfexhibition.co.uk.



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KOMATSU FOREST

If you go down to the woods today...chances are one of the first things you'll see is a brace of Komatsu Forest machines at work, felling trees and transporting them off for processing.



fter some 25 years or thereabouts as distributors in the Republic of Ireland for Komatsu heavy construction plant - excavators, loaders, dozers and the like - it was perhaps inevitable that a day would come when responsibility for the Komatsu Forest range of timber processing machinery would pass to their somewhat recently appointed distributor, McHale Plant Sales.

Passionate about Komatsu, and thoroughly versed in all aspects of their operations - technically and mechanically, and in the crucial areas of after sales service, maintenance and technical support and spare parts supply - the extension of their responsibilities to include the forestry sector was one they took to like the proverbial duck to water.

Since adding the familiar Komatsu Forest red jersey to their even more familiar Komatsu bright yellow strip, the Birdhill, Co. Tipperary and Rathcoole, Co. Dublin-based McHale Plant Sales has KOMATSU 835 been registering some significant sales of both harvester and forwarders as operators equip themselves to ride the crest of a buoyant industry that is fuelled by demand for timber in its various forms.

Indeed, in the eyes of those unconnected to the industry, one of the positive signs of this renaissance is the frequency with which motorists are forced to give way to fully loaded trucks hauling timber to their local sawmill.

LATEST MACHINES

Two new machines from the Komatsu Forest range - the Komatsu 901XC harvester and Komatsu Forwarder 835 - currently occupy centre stage at McHale Plant Sales as the company prepares to promote their availability on the market.



Noted for its low ground pressure, stability and good reach, the eight-wheeled Komatsu 901XC harvester is designed to deliver excellent manoeuvrability in steep terrain, with its superior ground clearance to help reduce ground damage on soft forest floors.

Designed to make light work of inclines and difficult terrain, its various features include an 'excellent' operator environment with large cab volume, perfect visibility, and a levelling system that ensures the cab remains horizontal while working on inclines.

A 3-pump hydraulics system allows the operator to work faster and carry out several crane and head functions simultaneously.

Powered by an impressive EU-compliant Tier 4 engine that delivers 170 kW DIN at 1,900 rpm, with reduced fuel consumption, it has a tractive force of 181kN, weighs from 20,000kg and has a stroke volume 6.61.

Stablemate to the 901XC harvester is the highly productive eightwheeled Komatsu 835 forwarder. A companion unit in every sense of the term, the 835 delivers the manoeuvrability and power required for optimal productivity and performance.

Combining performance and capacity, its low weight, high ground clearance and fuel efficient engine work in unison to reduce the environmental impact within the forest setting. Its unique hydraulic cab suspension ensures a comfortable ride while its short nose and large windows ensure that operators enjoy superb visibility.

High torque and considerable traction force, coupled with its superior crane turning torque and reach, paint a picture of the hard-working lumber carrier it is. Able to transport a gross load of 11,000kg, its other vital stats include power output of 127kW DIN, torque of 750Nm at 1200 - 1500rpm, and a tractive force of 159kN.

"High torque and considerable traction force, coupled with its superior crane turning torque and reach, paint a picture of the hard-working lumber carrier it is"

In the case of the new Komatsu 901XC wheeled harvester, the very first unit to arrive in Ireland is currently being prepared in McHale's impressive sales and after sales service centre at Greenogue Industrial Estate, adjacent to the busy Dublin - Limerick M7 motorway just outside the south Dublin village of Rathcoole.

In the same workshop, two new Komatsu Forwarder 835 machines are also being made ready for delivery as they undergo the mandatory pre-delivery preparation ahead of their customer handover.

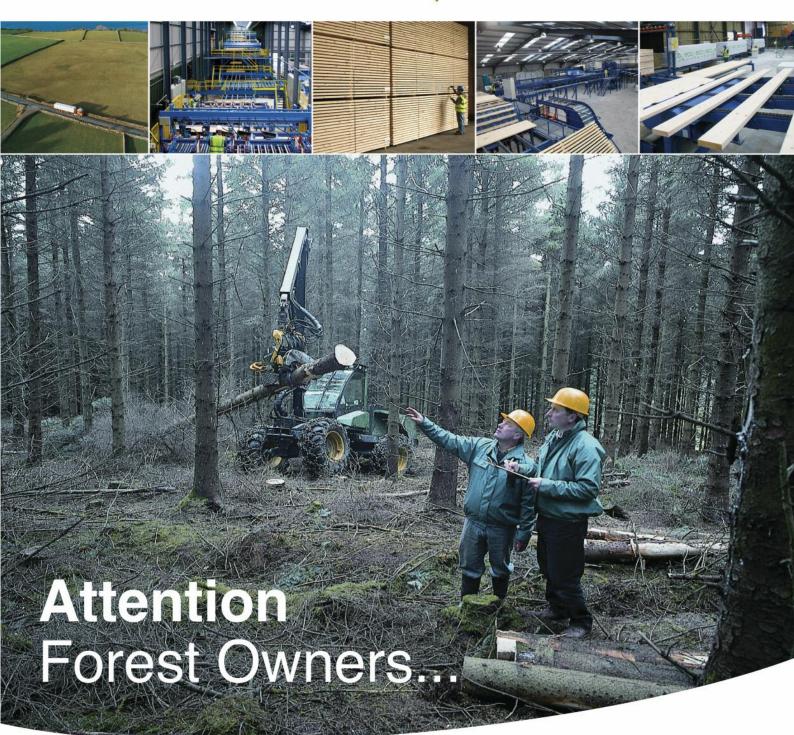
Impressed with their numerous features and excellent build quality, McHale Plant Sales director, Tim Shanahan sees the new 901XC harvester and 835 forwarder as 'two machines that fit perfectly hand-in-hand to provide operators with a complete forestry harvesting solution'.

Speaking to Forestry and Energy Review, McHale Plant Sales director, Tim Shanahan highlighted the important position Komatsu Forest holds within the wider portfolio of products his company distributes. In addition to Komatsu construction plant, the company's portfolio is one that gives them a powerful presence in other fields.

They do significant work in the quarry and aggregates sector where they represent the Finnish-made Metso stone crushing equipment. In waste management, the company was recently appointed to handle the renowned Terex Ecotec range of shredders while in the light construction and agricultural contracting sectors, their role as distributors of the Italian-made Merlo range of telehandlers gives them a strong foothold.

For further information please visit www.mchaleplantsales.com.





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IRELAND'S WESTERN PEATLAND FORESTS IN A CHANGING WORLD

Can new types of forest management provide a more appropriate mix of ecosystem services from Ireland's future forests?" By Anders Lundholm, Edwin Corrigan, Charles Harper and Maarten Nieuwenhuis of UCD.



he main purpose of forestry in Ireland is timber production. But in addition to timber, our forests are increasingly expected to provide a broader range of ecosystem goods and services, examples of these include: biodiversity, recreation and carbon-storage. The capacity of our forests to make these provisions is threatened by the uncertainties of climate change, evolving global markets and the demand for bioenergy. The way we manage our forests today may not be adequate to meet the societal demands of our future forests. Edwin Corrigan (Post-Doctoral Researcher at UCD) and Anders Lundholm (PhD student at UCD) explain.

The issue of ecosystem service provision in forest management has been studied at a national level through DAFM funded projects, for example PractiSFM, ECOVALUE and through international collaboration in the INTEGRAL, SIMWOOD and DIABOLO projects. This important research continues in the European project ALTERFOR. The aim of ALTERFOR is to provide improved and new approaches in forest management that are robust enough to address the challenges of the 21st century. Group workshops and one-to-one interviews at local and national level have determined potential options for managing forests in the future. This approach is used by nine European partner countries in a total of ten landscapes. The project is funded by the European Union's Horizon 2020 research programme, led by the Swedish University of Agricultural Sciences.

ALTERFOR IN IRELAND

The Irish counterpart of ALTERFOR comprises individuals from University College Dublin and Coillte Forest. The Western Peatland landscape was chosen as the landscape of study. It is particularly

interesting as traditional forest management in the Western Peatlands has typically been based around timber production, while the new political intention is to pursue multi-functional forest management. This change stems from the introduction of Sustainable Forest Management principles. The implementation of these principles into forest management in Ireland is encouraged through FSC and PEFC certification, which encompass the environmental and social pillars of Sustainable Forest Management in parallel with the traditional economic timber production focus. ALTERFOR captures these socio-economic and environmental non-timber aspects through ecosystem services. So, the question we are seeking to answer in this landscape: can new types of forest management provide a more appropriate mix of ecosystem services from Ireland's future forests?

THE LANDSCAPE - CLOOSH VALLEY FOREST

The Cloosh Valley Forest and surroundings in Connemara was selected for Ireland's case-study landscape (Figure 1). It was chosen as it is an area of peatland forestry with bog restoration, watercourses with freshwater pearl mussel populations in the Owenriff River, wind farm development, proximity to Galway and its international and national popularity for recreation and tourism (Figure 2). The landscape area is 77,500 ha and has 10,200 ha of forest. Much of the forest is on peatland and many of the current forests were established at a time when environmental legislation and consideration were minimal. This meant that large quantities of rock-phosphate fertiliser were used for forest establishment. Now, fertilisation in many of these areas is no longer permitted, meaning that it wouldn't be possible to reforest many of these areas. The challenge is how best to manage these forests into the future?

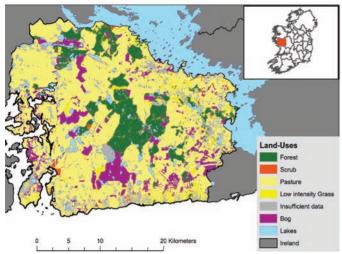


Figure 1. Land-uses in the ALTERFOR case study area.



Figure 2. Galway Wind Park located in Cloosh Valley forest. The treeline in the foreground is a typical Sitka spruce forest. It is decades old and yet to close canopy meaning that it will never produce a productive timber crop © Anders Lundholm.

DECISION SUPPORT SYSTEM - REMSOFT

The Irish ALTERFOR team uses the Remsoft Spatial Planning System. It is a spatial natural resource planning tool developed in Canada that is being used all over the world to evaluate the financial, ecological, environmental and social benefits of forest land. The system uses a model which produces a list of forest management options for each stand and then chooses the combination of options for all stands that leads to the most desirable landscapelevel outcome.

Determining which management options are appropriate for a stand requires consideration of, among other things, the spatial location, soil type, and elevation. For example, appropriate aquatic setback widths are established for any stand harvested within a certain proximity to a road or watercourse.

STAKEHOLDERS

National and local organisations with an interest in forestry were SCENARIO 3 - GLOBAL BIOENERGY (S3) interviewed to gauge their opinions on ecosystem services from current forest management within Ireland (Figure 3). They were also asked to indicate the organisations they network with and how they felt the management of forests could be improved in the future.

Decision support systems are quite common in forest management to investigate the 'What ifs'. For example, UCD's INTEGRAL project used Remsoft to investigate changes in policy such as the removal of the requirement to replant forests after clearfell. It was particularly useful as the effect of these changes was presented to stakeholder groups during their consultation workshops.



Figure 3. Irish stakeholders in ALTERFOR.

ECOSYSTEM GOODS AND SERVICES

The international ALTERFOR team includes five ES experts, each with a specific area of expertise: Carbon in living and harvested wood products and substitution of construction material; water quality; Wind and fire; Biodiversity and Cultural. Generally mixed forest stands and those at commercial maturity or pre-canopy closure have higher scores for biodiversity and cultural ecosystem service provision. The experts consulted with each country team and created a standardised method of reporting for each ecosystem service. This makes comparing the changes in ES provision between different European countries easier.

GLOBAL SCENARIOS

The effect of climate change on tree growth and corresponding demand and price changes for the sawlog and pulpwood products were modelled as scenarios. The scenarios run for 100 years, i.e. 2016 to 2116.

SCENARIO 1 - REFERENCE (S1)

There is no change in the utilisation of harvested wood products compared to today and no major effort is made to halt climate change. This scenario has the largest increase in climate change at 3.7°C rise in global temperatures by 2100. It means this scenario has the steepest decline in Sitka spruce productivity. To reduce timber production loss and to realise the economic benefit of this scenario's highest early pulpwood price increases, this scenario has the most immediate harvesting of Sitka spruce and reforesting by Lodgepole pine in the first 15 years.

SCENARIO 2 – EU BIOENERGY (S2)

There is a European effort to halt climate change. This effort means a temperature increase of 2.5°C by 2100. Wood price increases are like the Baseline Scenario but the utilisation of harvest volume for sawn timber for construction is favoured over the use of biofuels and wood-based panels meaning that there is a higher increase in the price of sawlogs.

Joint global efforts succeed in halting climate change in the Global Bioenergy Scenario, because of increased global utilisation of biofuel and wood products in construction leading to a steady increase in sawlog price. This results in a 1.5°C increase in global temperatures by 2100. In this case, the harvested assortments from lodgepole pine experience a steep rise in prices as there is more demand for biofuel, in fact prices have more than doubled by 2100.

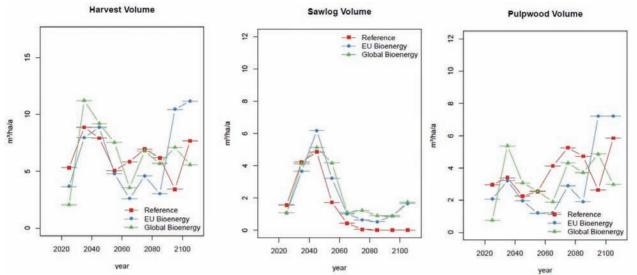


Figure 5. Total harvest volume (left), volume sawlog (middle) and pulpwood (right) per ha in S1 Reference, S2 EU Bioenergy and S3 Global Bioenergy.

Common to all scenarios is that a large portion of the Sitka spruce forest area (monocultures and mixtures) is replaced by lodgepole pine. This is largely due to the dominance of peat soils, which are severely limiting species choice especially since fertilisation that was applied historically for establishment is no longer permitted. This is no longer an option, due to water quality risks and the presence of the freshwater pearl mussel populations and as a result the proportion of Sitka spruce stands, Sitka spruce mixtures and diverse conifer stands decrease (Figure 4). Aquatic setbacks and road buffers are established through clearfelling and planting of broadleaves, increasing the total buffer area from 70 ha to 655 ha as current policy is implemented. The recreation potential of the forest remains steady in all scenarios. The increase in species diversity

ALTERNATIVE FOREST MANAGEMENT TYPES

Alternative approaches to forest management were mainly developed in cooperation with Coillte and in line with the information gathered from the stakeholder interview process. The common theme is that they are suitable for the infertile soils in the Western Peatlands, or other infertile areas in Ireland and the British Isles.

The management prescription is outlined below.

- Lodgepole pine for fibre: planted at 1600 stems ha-1, left to grow for approximately 60 years until clearfelled for biomass. Lodgepole pine for conservation: planted at 1100 stems ha-1, left entirely unmanaged to fulfil reforesting requirement.
- Modified-Kronoberg system: Sitka spruce established with birch as a nurse species on shallow blanket peat.

"The aim of ALTERFOR is to provide improved and new approaches in forest management that are robust enough to address the challenges of the 21st century"

(mainly from bufferzones) increase the recreation potential in the area. However, this is offset by the higher harvest residue volumes associated with lodgepole pine stands, compared to Sitka spruce. Implementation of current forest policy had the highest impact on the timber assortment mix, with the increase of lodgepole pine leading to more pulpwood and less sawlog being harvested in the future (Figure 5). Detailed analysis showed that the dynamic prices had more of an effect on harvest levels and species choice than the effect of climate change.

S1 - Reference

100758 Broadleaves
Total Buffer
Native Woodland Site
Sitika spruce mintures
Sitika spruce
Lodgepole pine
Clearfelled

Figure 4. Percentage forest type area in the S1 – Reference. The change in forest types is very similar in S2 - EU Bioenergy and S3 - Global Bioenergy scenario.

• Bog restoration: Restoring drained bog to peatland habitat. It should be noted that these are preliminary results and are subject to alteration pending discussion with our stakeholders during workshops in September 2018:

CONCLUSIONS

Resulting from current management policy, large tracts of Cloosh Forest will be converted from Sitka spruce to lodgepole pine to reduce the impacts on water quality from fertilisation at establishment. The shift towards lodgepole pine will cause a long-term reduction in sawlogs and an increase in pulpwood. By 2080, Sitka spruce is expected to have its productivity reduced to 82.5%, compared to 1990 YC. Meanwhile, lodgepole pine is expected to increase its productivity to 106.8% of 1990 YC. Additional scenarios were tested where fertilising for Sitka spruce was allowed. In S1 and S2 it was preferred, financially, to establish Sitka spruce over lodgepole, even with the reduction in Sitka productivity. Lodgepole pine was only preferred in S3 due to the high increase in pulpwood prices. Since lodgepole pine can grow on nutrient poor sites it could be a very suitable species on blanket peat in the future, especially if demand for biofuel increases in attempt to halt climate change.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 676754.



Contact details for more information: forestry@ucd.ie Project Website: www.alterfor-project.eu



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JAS P WILSON'S SUPPLY QUALITY NEW & USED POSCH FIREWOOD MACHINES TO IRELAND

New Posch distributors for the Republic of Ireland, Jas P Wilson, are well-known throughout Europe as suppliers of quality new & used machines.



hrough the sale of new machines, Wilson's always have an excellent supply of quality used machines which have been traded in as a part-exchange. This supply of quality used machines provides users with a similar high-quality product at a price point more suited to the entry level buyer or the user looking to upscale their production. Wilson's endeavour to ensure these used machines are just as capable as if they were new! Wilson's have a dedicated Posch firewood service workshop where Posch trained specialists recondition these machines to a standard where Wilson's will happily cover them with a 6-month parts warranty!

Wilsons have produced a short video to highlight both their used & new firewood machines and the benefits of each model - this is a

discuss your requirements and showcase our products, both new and reconditioned.

A top seller within the range of new products is the S-375 firewood processor. This quality tungsten tipped circular saw machine has already made a name for itself, having been launched at the end of 2017. This model builds on the success of the prior S-350 & S-360 models with some excellent improvements to output performance and ease of use. It can accept timber up to 37cm in Diameter and can easily process even very twisted lengths. The timber enters the machine where it is cut into rounds up to 50cm long, which is ideal for the biomass market. These cut rounds then fall into the splitting chamber which uses up to 12 tonnes of force to split the timber into 2, 4, 6 or 8 ways depending on which knifes you have chosen for the machine. These knifes can be quickly changed over in a matter of moments with a quick locking pin. Upon splitting, finished logs travel up a powered outfeed conveyor to further reduce any handling requirements. This joystick-controlled machine also benefits from hydraulic ports to run additional machinery including log decks, cleaning screens and net wrappers.

Their product range in Ireland also includes TP landscape and biomass wood chippers, Lasco cone splitters, Igland forestry winches, JAK tree shears, Keto & SP harvesting heads, Botex heavy duty trailer & loaders, used purpose-built harvesters & forwarders, used firewood machinery and used spare parts for Forestry Harvesters and Forwarders.

The Botex range of heavy duty trailers & loaders have been sold across Europe by Jas P Wilson for over 20 years. The full range is

"Why not visit our stand at the National Ploughing Match on the 18th, 19th & 20th of September, Forestry Area"

great video to get a better insight on what would suit your needs! Please visit www.youtube.com and search 'Posch Processor Guide', here you will see the video titled 2018: New & Used Posch Processor Guide.

Jeffrey Borland, who will be a well-known face to some in the firewood industry is the Sales & Demonstrations Manager for Ireland and aims to support firewood producers across the country with quality machines and excellent service.

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NATIVE WOODLAND EXPANSION & MANAGEMENT, THE NATIVE WOODLAND CONFERENCE & OPPORTUNITIES FOR THE FORESTRY SECTOR

Considerable planning and management expertise in native woodland management has been developed in the past two decades, writes Declan Little.



Fig. 1.: A marginal. Upland location in Conemara, Co. Galway that was improved during the Famine period and subsequently abandoned. Some of this site, especially the destoned, green mid-section on the slope, is suitable for Native Woodland Scheme Establishment under Scenario 5.

ative woodland management and policy have made significant advances since the People's Millennium Forests project in 2000 (see http://www.millenniumforests.com/) and the introduction of the Forest Service 'Native Woodland Scheme' in 2001. Coupled with the first National Survey of Native Woodland in 2008 (see https://www.npws.ie/content/publications/) and various policy documents from the Forest Service (especially on Forests and Water) and Woodlands of Ireland Information Notes (see http://www.woodlandsofireland.com/publications), native woodlands have for the first time in centuries, received attention that was sadly lacking heretofore.

Between the restoration of high forest and scrub native woodland (under Native Woodland Conservation) and the creation of new native woods (under Native Woodland Establishment) approximately 5,000 hectares have been managed (see https://www.agriculture.gov.ie/forestservice/grantsandpremiumsche mes2015-2018/). Another 6,000 hectares have been restored mainly by National Parks and Wildlife Service (NPWS) and some by Coillte through EU Life projects (see https://www.coillte.ie/ourbusiness/our-projects/priority-woodland-habitats/).

The Native Woodland Scheme has an overriding biodiversity objective with secondary goals such as quality wood production under Continuous Cover Forestry and recreation (which can be addressed using the NeigbourWood Scheme along with the Native Woodland Scheme). There is growing interest in the Native Woodland Scheme in more recent years as the Scheme has evolved with more options for the landowners and increased incentives. For example, under Native Woodland Scheme Establishment, improved marginal land can now be afforested under a new 'Pioneer Woodland' module (Scenario 5) and this also applies in Acid Sensitive Areas (ASAs) and Special Areas of Conservation (SACs). Upwards of €6,220/hectare can be drawn down to plant new native woodlands under Native Woodland Scheme Establishment (GPC 9 & 10) with annual premiums of up to €680/hectare/year for 15 years. Old, ancient or emergent (scrub) native woodland attract a grant of up to €5,000/hectare with an annual premium of €350/hectare/year under Native Woodland Scheme Conservation. This is particularly relevant to sites designated as SAC or Natural Heritage Areas (NHAs).

Government policy is promoting broadleaves more proactively than ever - the current Forestry Programme 2014-2020 has a target

of 2,700 hectares of new native woodland under Native Woodland Scheme Establishment and just under 2,000 hectares of existing native woodland restoration under Native Woodland Scheme Conservation. These targets not only address native woodland in isolation, but also address the 30% broadleaf target in the national afforestation programme. Though initial uptake of the Native Woodland Scheme was slow in the early years of the current Forestry Programme, interest in recent years has accelerated, especially under Native Woodland Scheme Establishment in 2017/18 as approximately 1,300 hectares have been pre-approved by the Forest Service. Native Woodland Scheme Conservation has been disappointing as applications in the same period amounted to only 250 hectares approximately.

Native Woodland Scheme Conservation is also open to the public sector and the doubling of the grant to €5,000/hectare for publicly-owned woodland during the Forestry Programme review should see an increase in applications from National Parks and Wildlife Service (NPWS) and Coillte during the remainder of the Forestry Programme up to 2020. As conifer afforestation targets continue to fall for a variety of reasons, there is an opportunity for forest companies and indeed the sector generally, to promote the Scheme more widely and take up some of the slack in the national afforestation programme generally.

Woodlands of Ireland, a partnership-based native woodland technical non-governmental organisation dedicated to native woodlands, developed the Native Woodland Scheme with the Forest Service and other key stakeholders such as National Parks and Wildlife Service, Inland Fisheries Ireland and the Heritage Council, to address the plight of native woodlands at the turn of the new Millennium. Just under a meagre 2% of Ireland's land area supports native woodland,

a long way off its zenith of approximately 80% land cover some 6,000 years ago! Woodlands of Ireland continues to provide technical support to the Forest Service on the Scheme and, in addition, provides a free on-site service to landowners and Native Woodland Scheme -approved foresters to assess site suitability for the Scheme. Feedback from landowners and Native Woodland Scheme practitioners is relayed to the Forest Service, which in turn modifies and streamlines the Native Woodland Scheme at intervals.

The Scheme has a very strong ecological foundation and brings together landowners, foresters, ecologists and forest contractors to plan and deliver site-specific, appropriate native woodland management. (the Native Woodland Scheme Conservation Management Plan is drawn up by an accredited forester and ecologist). As well as addressing woodland biodiversity, conservation and restoration, the Scheme also incorporates quality wood production and non-timber objectives, including water quality protection (using native, riparian woodland buffers), recreation (in conjunction with the NeigbourWood Scheme), climate mitigation (carbon sequestration) and flood alleviation. Effectively, ecosystem services and paying landowners for providing them under the Native Woodland Scheme is one of the most important tasks of the current focus of Woodlands of Ireland work programme, especially with the recent advent of natural capital initiatives worldwide (see http://www.naturalcapitalireland.com/).

Last year, it was decided by the Woodlands of Ireland Steering Committee to host a Native Woodland Conference to assess progress and look to the future. (The first national Native Woodland Conference took place in 2004 and Proceedings are available at http://www.woodlandsofireland.com/ publications). It is important to highlight the work done to date, present the current key challenges and future opportunities.



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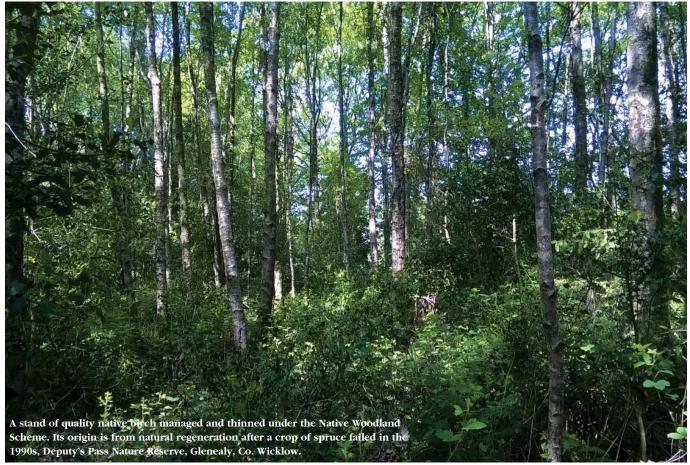
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The conference titled '20 Years A-Growing - Celebrating Ireland's Native Woodlands' was held at the Glenview Hotel, Glen of the Downs, Delgany, Co. Wicklow on April 30th and May 1st this spring. The event was officially opened by Andrew Doyle, Minister of State for Food, Forestry and Horticulture and was oversubscribed with over 200 delegates attending. A range of expert speakers, including Native Woodland Scheme landowners and the forestry and ecological sectors addressed a myriad of topics under themes including Ecology, Silviculture and Classification, Challenges, and Native Woodlands and Water. Topics such as rewilding with native woodland, native woodland ecology, tree diseases, flood management, invasive species, landowner's concerns and the Native Woodland Scheme, ecosystem services, deer management, native trees and shrubs supply from the nursery sector, silvicultural education in Ireland, and growing quality indigenous timber were all addressed. Delegates engaged during the plenaries,

assistance from Woodlands of Ireland. Similarly, the biodiversity management requirements for the recently established populations of Great Spotted Woodpecker need to be catered for, i.e. leaving as much standing and lying deadwood in woodlands as is required.

The threats to native woodlands are growing as evidenced by recent disease outbreaks such as Ash Dieback and Sudden Oak Death. In addition, invasive species need a concerted co-ordinated national programme to control their spread and negative impacts. With regard to climate change delegates were told that we need case studies in small upland catchments and floodplains to demonstrate the effectiveness or otherwise of mitigation measures that include woodland establishment to assist in flood control. Other threats such as over- and undergrazing were highlighted and the need to research these issues further. Opportunities to develop downstream wood products from quality hardwood production needs addressing

"There is growing interest in the Native Woodland Scheme in more recent years as the Scheme has evolved with more options for the landowners and increased incentives"

presentation sessions and the excursion, providing valuable opinions, experience, insights and feedback to numerous complex issues.

A Native Woodland Scheme landowner presented on the positive experience she has had with the Native Woodland Scheme in a challenging location near Glencree, Co. Wicklow where deer numbers are very high. Some presentations expanded our knowledge, such as the status of Scots pine as a native tree that survived to the present from very recent research. This contrasts with the widely-held view that it had become extinct about 1,000 years ago. Recent evidence suggests that at least one stand of native Scots pine almost certainly survived the woodland devastation of the Post-glacial Period. The implications for creating new native woodlands with Scots Pine as a component are obvious; seed collections from stands considered native will be encouraged and co-ordinated with

and this would also lead to indigenous job creation. The requirement to manage deer at a regional level, including local woodland management plans that incorporate deer ecology, woodland design, fencing and culling was repeatedly advocated.

With regard to the Native Woodland Scheme, delegates were told that it is essential to look at what the landowner wants and perceives as a viable woodland establishment option especially as the Native Woodland Scheme does not compete with commercial conifer afforestation on purely economic grounds. Ecosystem Services should be paid for in lieu of revenue from timber in many cases, especially native woodlands established and managed for water quality protection and carbon sequestration. (see http://www.woodlandsofireland.com/native-woodland-conference-

2018-0 for presentation videos).





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Fig. 2: Delegates who attended the Native Woodland Conference excursion, Ballygannon Wood, Rathdrum. Co. Wicklow.

The conference excursion on May 1st to public and private Native Woodland Scheme sites (as well as a People's Millennium Forests site public sector, such as Inland Fisheries Ireland, Coillte, National Parks managed by Coillte) provided an ideal platform for discussing woodland management issues in particular. The field excursion to woodlands that have been managed under the Native Woodland Scheme and the People's Millennium Forests generated a lot of debate amongst delegates, especially where wood production is also an objective along with the overriding biodiversity objective. A stand of quality downy birch was visited at Deputy's Pass, Glenealy, Co. Wicklow where the Native Woodland Scheme has been applied to optimise wood production while abiding by the overriding biodiversity objective of the Scheme using Continuous Cover Forestry silviculture. Its promotion and practise is an area where Woodlands of Ireland will work with Prosilva Ireland and Teagasc in the future.

The issue of deer and their management with respect to native woodland establishment and management was borne out very starkly at a privately-owned Native Woodland Scheme site. Likewise, invasive and naturalised species such as rhododendron, cherry laurel, beech and sycamore need to be controlled on an ongoing basis as eradication is nearly always virtually impossible. Finally, the People's Millennium Forests project Charter - which outlines the status and management of People's Millennium Forests sites for the benefit of future generations by Coillte on behalf of the people of Ireland - was formally launched at a Coillte-owned site which was restored between 2000 and 2005 giving rise to a vibrant mixed age class native woodland.

Clearly a lot of progress has been made over the past two decades in laying the foundations for the appropriate management and establishment of native woodlands. Considerable planning and management expertise has been developed resulting in native woodland management experience and skills in the forest sector. Work will continue to advance the sector - Woodlands of Ireland in conjunction with the Forest Service provide accredited training to foresters and ecologists who wish to work on the Native Woodland Scheme.

These courses are also open to landowners, forest contractors and the and Wildlife Service in particular (to apply see http://www.woodlandsofireland.com/notices).

Given the challenges and opportunities outlined above it is clear that much more needs to be done to ensure the future viability and expansion of native woodlands with multifunctional benefits, ecosystem services, downstream products and specialised, sustainable indigenous job creation.

Dr Declan Little is Project Manager of Woodlands of Ireland and can be contacted at woodsofireland@gmail.com and at 087-6685823. See www.woodlandsofireland.com



Fig. 3: Participants and field leaders at the Woodlands of Ireland/ Forest Service Native Woodland Scheme Training course, in November 2014 at Ballycoyle, Glencree, Co. Wicklow.

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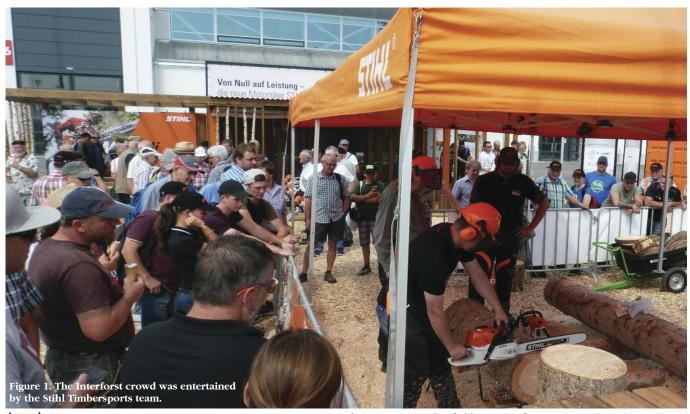
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INTERFORST 13th TRADE FAIR AND CONFERENCE FOR FORESTRY AND FOREST TECHNOLOGY

The development of new technology in the management, harvesting and end use of forestry products was very much the theme at interforst, writes Tom Kent.



he Interforst forestry trade fair is held every four years at the Messe München exhibition centre on the outskirts of Munich. The 13th edition, held from 18th to 22nd July 2018 was the biggest yet, with over 450 exhibitors from 28 countries and 50,000 attendees from 70 countries. Interforst differs from Elmia in being easily accessible by public transport and car, and being contained within a compact, well-serviced indoor and outdoor site. On the other hand, the stands are mainly static, with little opportunity to view the wide range of displayed forest technology in action in the forest environment. The trade fair provides an excellent opportunity to quickly gain knowledge on the state-of-the-art in the forest sector and particularly production and services technology in the forest product supply chain.

FOREST INDUSTRY IS EXPANDING THROUGH INNOVATION

Above all, the central European forest sector used the trade fair to state clearly that wood for construction, energy and biorefining is the corner stone of the bioeconomy. Digitalization, applying new technology and big data to expand the forest industry were the recurring themes of the exhibition and trade fair. The big machine manufacturers high- lighted how data on operator performance and machine productivity were the bases of new machine design and the instrumentation of computers and on-board sensors for production, invoicing and operator improvement would continue. Forest companies USER-DRIVEN DIGITAL APP DEVELOPMENT are now using drones as a standard forest tool to map and inventorise

fires. Remote and in-field sensing of environmental conditions are now being incorporated into forest decision support tools for forest management in harmony with nature with an emphasis on soil conservation.

PROFESSIONAL AND SAFE CHAINSAW **CULTURE**

While mechanised harvesting on steep terrain in central Europe is becoming increasingly utilised, the professional use of chainsaws is still common. The German Social Insurance for Agriculture, Forestry and Horticulture Association carried out demonstrations highlighting technical details that make chainsaw work safer and more comfortable, including chainsaw maintenance, PPE, secure felling technique, technical felling aids and portable cable winch support. In addition to high quality personal protective equipment (PPE) on display by several exhibitors, other tools and devices are now seen as essential for the chainsaw user: such as radio communication built into the forestry helmet for effective communication, personal alarm systems, and a light weight hi-vis harness on which to carry a range of first aid, measurement and felling aid devices. Of course tools are useless without competence training, and the European Chainsaw Certificate was widely promoted at the event. This training programme, certified by the European Forestry and Environmental Skills Council is a prerequisite now for working in the state forest in Germany.

Many exhibitors came to display and promote digital tools for more the tree population, identify windthrow, pests and diseases and forest efficient forest mapping and inventory, timber measurement, forest

management planning and invoicing and chain of custody. It was interesting to hear that many digital products were the result of, or were based on, original research, starting with asking what the customer wanted. In Germany, there are many small private forest owners that do not actively manage their forests, while the forest industry has an increasing demand for timber. This sounds familiar to the Irish forestry, but the reasons may differ: city-dwelling children inheriting rural forest land; or land only used for hunting. Two apps that have proved very popular, and have ample room for further development and international expansion are the Wald Hilfe (Forest Help) and Wald Marktplatz (Forest Marketplace) apps. Wald Hilfe is aimed at those owners not yet actively engaged in forest management. The app provides easy to read guides and tutorials on the basics of forestry, with plenty of video based content and links. Wald Marktplatz is aimed at linking interested private forest owners with the other players in the forest industry: nurseries, contractors, forest managers, timber buyers and the regulatory authorities. Again, the app is designed to guide the forest owner through any operations or management decisions, providing tutorials, form templates and industry contacts. According to Milan Hansel, app developer, the basis of the apps was to comprehensively map the forest market model in Germany and survey representatives on the knowledge gaps needed to improve woodflow from the private forest sector.

STRONG DEMAND FOR WOOD ENERGY

Wood energy from forestry at all scales continues to develop. There was a wide range of forest biomass harvesting, processing and combustion equipment on display for woodchip, hogfuel and firewood production and conversion to energy. Matching wood fuel quality for particular energy conversion systems was well described by exhibitors. The ENplus quality certification for wood pellets, based on the ISO solid biofuel standards, has proven to be very successful with an estimated 10 million tonnes of pellets to be certified under the system this year. An ENplus certification process for woodchip production has been developed and rolled out this year in Germany and Austria. This is a positive development to facilitate trade and increase consumer confidence in woodchip fired systems.

Figure 2. Interforst had a strong focus on professional and safe chainsaw operation, from high quality personal protective equipment to correct felling technique.



INTERFORST TOP FIVE FORESTRY INNOVATIONS: Here is my personal list of the most interesting exhibitor items seen at Interforst 2018:

#5. GO2MILL CHAINSAW ATTACHMENT

There was only one exhibitor from Ireland and the UK at Interforst, proudly flying the Irish flag over the Munich arena, nestled in among the mobile sawmilling giants like WoodMizer and Logosol. Go2Mill is an Irish startup with a deceptively simple and therefore very clever

chainsaw attachment to cut roundwood into dimensioned boards. The device threads on to the chainsaw guidebar bolt and then can be attached to a fixed rail, allowing the chainsaw to be positioned to cut straight boards of consistent thickness from roundwood. The product is aimed at chainsaw owners who may come across large individual logs with interesting timber potential. Ripping logs with a chainsaw is slow work, and Brian Gibson from Go2Mill recommends investing in a ripping chain when using the chainsaw to cut boards. Further information may be found here: https://www.go2mill.com/

Figure 3. Brian Gibson, Martin Byrne and Chantel Stewart of Go2Mill, based in Co. Wicklow, chat to another customer at Interforst.



#4. VEPAK FIREWOOD PACKING MACHINE

Firewood, whether produced for personal consumption or at a range of commercial scales, is a part of the forest culture of central Europe. Every rural garden and yard has firewood stacked and covered for winter. A wide range of equipment from several companies was on display in the form of log decks, cross cutters, splitters, crackers, processors, tumblers to remove small particles, bagging frames and tipping trailers. Perhaps the most difficult challenge in firewood production is how to automate packing small net bags.

This is because each firewood piece is uniquely shaped and often even the smallest corner or stub can catch on the netting making manual bagging slow and frustrating. One company, Vepak of Norway, have made an attempt to crack this with their firewood cleaner, sorter and bagging device. First shown at Elmia last year, the machine has undergone further development and refinement by the Norwegian manufacturer, based on early customer feedback. A number of units have been sold into Ireland and the UK. Further information may be found here: http://www.vepak.no/



Figure 4. VEPAK firewood packing machine.

#3. NUESON TRACKED HARVESTER

Harvester heads mounted on excavator bases have been successfully used for mechanised harvesting in Irish forestry for decades. Particularly on peat sites, with low ground bearing capacity, and sloped sites, the low ground pressure and stability of tracked machines facilitates productive, safe forest harvesting. Nueson Forest, an Austrian company, has developed a range of modern tracked harvesters, specifically designed to optimise machine weight distribution on challenging sites. The





"Digitalization, applying new technology and big data to expand the forest industry were the recurring themes of the exhibition and trade fair"

entire upper carriage is self-levelling for increased stability and has a continuous 360° pivot. This continuous pivot, along with a 10 metre crane reach mean trees can be selected all around the machine in an up to 400m² plot. The operator can avoid particularly poor ground and select the most stable location before engaging in harvesting. An Irish contractor, Tim Kelly, has started working the Neuson 183 HVT in Donegal in second thinnings on peat. Tim is satisfied with the machine productivity and in particular the ability to operate on all parts of the site, maintaining flotation. He sees the machine as being flexible for use in thinnings and clearfells in the North and West of Ireland. George Murphy, agent for Neuson in Ireland, sees this harvester filling a niche on forest sites where wheeled harvesters, with or without traction aids would not be suitable.

Further information can be found here: https://www.neuson-forest.at/

#2. HIAB HIVISION REMOTE CRANE CONTROL

The forest industry has always found applications for new technology, in the on-going effort to continuously improve safety, efficiency and productivity. There were many examples of this at Interforst from smartphone apps for forest management and financial control, UAV deployment to spot forest fires and steep terrain traction aids for harvesters. The HiVision system from Hiab was a great example this: marrying the Oculus virtual reality headset, with 3D optics, and crane-mounted stereo video cameras to the crane controls in the truck cab. This removes the need for the highseat and controls on the crane, increasing load-carrying capacity and operator comfort while reducing accident risk. Trucking companies that have already invested in this system report that it also improves new driver recruitment. Further information can be found here: https://www.hiab.com/en/pages/loglift-jonsered/HiVision

#1. NESTLE KOLIBRI CHAINSAW ATTACHMENT

The number one item from Interforst has to be the item I actually bought for myself: a fantastically over-engineered attachment for a

chainsaw to precisely measure and crosscut logs into firewood rounds. The device simply attaches to one of the guide bar bolts and comes in a range of lengths from 25 cm to 100 cm. As a committed stove nerd, I like to ensure my firewood fits the firebox perfectly. In particular, I am hoping the days of singed fingers and frayed temper trying to manoeuvre overlong firewood into the stove are numbered. Further information may be found here:

http://g-nestle.de/en/product/trimming-support-kolibri/



Figure 7. Consistent length firewood rounds are made easy with the Nestle Kolibri chainsaw attachment.

Author & Photos:

Tom Kent is the Programme Leader of the BSc in Forestry, Waterford Institute of Technology.

FURTHER INFORMATION:

General information in Interforst can be found here: https://interforst.com

Information on forestry at Waterford Institute of Technology can be found here: www.wit.ie/wd076



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September at Ragley Estate, Alcester, Warwickshire exhibitor bookings have already climbed to over 270 and are well on the way to exceed the record total of 315 reached in 2016.

There will be many new product launches and new machines on show never seen before in the UK. If you are planning to buy or replace any machinery then you need to be at the show as it is the one place you can see every manufacturer and their equipment working in realistic conditions.

There is more to do and see than ever before. Machinery for both large and small scale woodlands will be strongly represented. The APF Demo is the place where the entire trees and timber sector gets together for their biannual gathering. Practically every industry association will be there including Confor, UKFPA, FC, RFS, ICF, FCA, Arb Association, Small Woods Association, FISA, National Coppice Federation, UK Pole Lathe Turners and Green Woodworkers Association, The Woodland Trust, Lantra and NPTC. If there is anything you need to know about trees, timber and woodlands you can find the answers at APF 2018.A new feature for this year is 'Fencing in The 21st Century' with daily demonstrations of the latest in techniques, materials and equipment and a chance to get hands on training and advice from the experts. There will also be a competition to erect 25m of stock fencing in the fastest possible time.

The Forestry Commission will be holding a series of topical seminars to bring you up to date with current research and news on the latest plant health, bio-security, pest and disease news.

Confor are staging two panel discussions in the seminar tent. Thursday's topic will be Fairplay on Forestry – Land Use Post Brexit and on Friday Forestry and the Bioeconomy, with a range of top industry speakers. Confor will be holding their AGM on the Thursday morning at the show.

The Forest Worker Zone, which was so popular last time, returns with an even more comprehensive programme. Thursday & Friday will see demonstrations and hands on training in the use of skyline systems for harvesting difficult and sensitive sites. Booking is recommended for this as numbers are limited. Please book in at: toby@sayitwithwood.co.uk. There is also a range of daily practical drop-in discussions and demonstrations on a variety of subjects from, manual handling, chainsaw maintenance, career development, running a business and much more. Just pop in for a cup of tea and a chat. The draft programme for this can be found on the events page of the website.

FISA and Lantra will be running practical safety and training demos throughout the three days on a range of subjects from tree felling to





tree climbing. They are encouraging everyone to stop by, have a chat and discuss any technical or safety concerns they have.

When you want a rest you can relax and watch The Husqvarna World 25m pole climbing championships and the A W Jenkinson and Tilhill Forestry European Chainsaw carving competitions, with the standard set to be higher than ever before. We welcome our first carver from Mongolia this year and Will Lee will seek to defend his 2016 title.

Stihl Timbersports return this year and there will be three daily displays as the UK Team warm up for the World Championships being held in Liverpool later this year. The Komatsu UK Forwarder Driving Competition will again test the UK's best operators in a new, challenging woodland course and the very popular woodland crafts area with a huge range of rarely seen crafts on display from charcoal to coracles, including a wheel wright for the first time and the fast and furious world log to leg pole lathe turning championships.

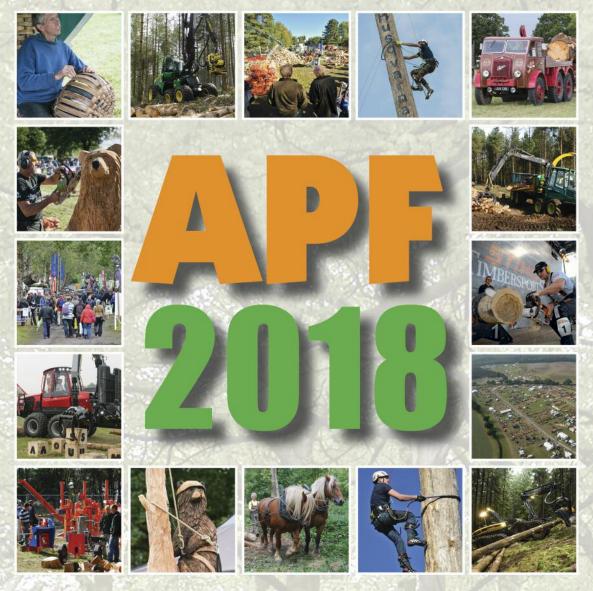
This really is Europe's top forestry and woodland event of the year and should not be missed. Tickets will be available on the gate priced £22 but if you want to save money then book online via the website. A one day ticket is just £18, a two day ticket is even better value at £30 and if you are buying 10 or more tickets the price falls to just £16 for a one day ticket. Please note these discounted prices will not be available on the gate.

There is onsite camping at just £15 per person per night and a wide range of other accommodation locally to suit all budgets. The visitor section on our website has details of local accommodation. If you want to book tickets or camping you can do this online via our website. If you are travelling from overseas the nearest airport is Birmingham International about 40km away and the best railway station is Stratford Upon Avon about 10km from the show.

Full details of the exhibition including a list of exhibitors booked to date are on the exhibitor section of the website. Email: info@apfexhibition.co.uk, website: www.apfexhibition.co.uk, Tel: 01428 723545. You can also follow APF 2018 on Facebook www.facebook.com/APFExhibition and on Twitter @APFExhibition.



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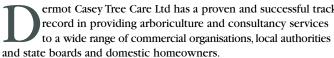




A FAMILY RUN BUSINESS

Established in 1972, Dermot Casey Tree Care Ltd. has evolved from modest beginnings to becoming one of Ireland's largest and most reputable tree surgery companies.





NATIONWIDE EXPERTS IN TREE SURGERY

Arboriculture is one of the most dangerous occupations in Ireland. With so many companies offering tree surgery services at a variety of prices and standards, it is difficult to know who to trust. Dermot Casey Tree Care Ltd., has the expertise, experience and specialised equipment to cover all aspects of tree surgery. We employ an awardwinning team of NPTC certified arborists - all with extensive industrial experience and know-how. Staff are trained to the highest arboricultural and safety standards and use the industrial best practice methodology and equipment. Tree felling is conducted in accordance with BS3998: 2010 (Tree Work) and BS5837: 2012 (Design, Demolition and Construction), appropriate Health & Safety Method Statements and the guidance provided by Arboricultural and Forestry Advisory Group Safety. Dermot Casey Tree Care arboricultural services include tree felling, pruning, trimming, mulching, chipping, crown reduction, stump grinding, site clearance, bridge, motorway & railway maintenance. We also carry out tree surveys and reports, The PiCUS Sonic Tomograph is used for tree risk assessments in order to measure the thickness of the residual wall of trees with internal





ermot Casey Tree Care Ltd has a proven and successful track production and reduced dependency on manual labour. The larger record in providing arboriculture and consultancy services diameter chippers also produce a viable source of Biofuel.

Dermot Casey Tree Care is the largest arboricultural contractor for ESB Networks Overhead Network Vegetation management programme. Experience and accreditations developed within this sector has enabled Dermot Casey Tree Care to work in close proximity to overhead networks with a greater degree of safety and confidence. These skills are transferable into both the commercial and domestic sector. As part of their continued expansion and development, Dermot Casey Tree Care specialise in Timber Harvesting for ESB Networks and the ever-expanding private forestry sector in Ireland.

SAFETY IS OUR PRIORITY

An integral part of our business is our commitment to the health & safety of our operatives. We adhere to all guidelines issued by the Health & Safety Authority and are fully compliant with Safety Legalisation. Dermot Casey Tree Care Ltd is ISO 9001, 14001 and 18001 accredited. Our equipment and machinery are CE compliant and all working activities are risk assessed and strategically planned to the highest standards to ensure the health and safety of our operatives, our clients and the general public. All operations conducted on public roads are carried out in accordance to Chapter 8 of the Traffic Signs Manual. It is this innovative and progressive outlook that enables

"Dermot Casey Tree Care Ltd., has the expertise, experience and specialised equipment to cover all aspects of tree surgery"

defects such as cavities or decay non-invasively. We also offer a 24-hour emergency call out service throughout Ireland. This dedication to our work has earned us a solid reputation for quality, reliability and professionalism.

SPECIALISED EQUIPMENT

Constantly upgrading their equipment and fleet, Dermot Casey Tree Care were the first company in Ireland to introduce Insulated Platform equipment for working safely around Live overhead networks and the Self- Propelled AHWI RT400 mulching machine which has been used on major infrastructure operations over the last decade as well as site clearance & land reclamation contracts for the forestry and agricultural sectors. Always keen to work with the most modern equipment, Dermot Casey Tree Care have invested in purpose-built forestry tractors, coupled with felling grapples and 20" self-propelled chippers. The use of such equipment can lead to increased

Dermot Casey Tree Care Ltd to proudly say that they are the safest tree surgery company in Ireland!

ENVIRONMENTAL AWARENESS

Dermot Casey Tree Care Ltd. deems environmental protection as a fundamental part of its business and is fully committed to the prevention of pollution and reduction of its carbon footprint. Dermot Casey Tree Care Ltd. conducts all its working activities in an energy efficient and environmentally responsible manner and are fully compliant with all applicable legal legalisation with particular emphasis on bio-security.

As a result of our continued expansion, we have exciting opportunities available for motivated individuals to join Dermot Casey Treecare as Utility Arborists (ESB) and Tree Surgeons.

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A NEW WAY TO GROW

Paddy Rhatigan has found that forestry gives him as much job satisfaction, and a better work-life balance than sucklers. His income is higher too. Noel Kennedy, Teagasc Forestry Development Officer, reports.



here is nothing easy in drystock farming – whether it's the weather or prices or fodder – there can be many challenges. Many farmers are re–assessing their situations and exploring sustainable options to improve returns while changing their work–life balance for the better.

Paddy Rhatigan is one farmer who went through this process a number of years ago and took radical action in response.

Reared with his sister Katie in Knockhall, not far from the Shannonside village of Rooskey in County Roscommon, Paddy was farming fulltime with his father, managing a small suckler herd, as soon as he left school.

INTEREST IN FORESTRY

Paddy always looked positively at forestry as a potential option for their marginal land where heavy soil and wet summers regularly frustrated farming. When Paddy Hanley, owner of the local bacon factory planted his neighbouring farm in the 1990s, he watched with admiration the fast growth of the young trees that were thriving on similar land to his.

Following the death of his parents Paddy continued to farm. Now, in his forties and farming on his own, he began to look seriously at

his quality of life going forward. This further heightened his interest in forestry for a number of reasons not least as a means to reducing a difficult and sometimes stressful workload.

Over the next couple of years Paddy assessed his farming, forestry and life style options and in 2012 took the life changing decision to plant most of the farm. His driving hope was to improve his quality of life while establishing an alternative sustainable farm enterprise.

Following consultation with local forester Joe Tansey, an afforestation grant application was made to plant 45 hectares out of the 53 hectares farm. The remaining 8 hectares around his and Katie's houses were kept for farming.

The large area for planting, influenced by its eligibility to retain Basic Payment, was focussed on the establishment of a highly commercial sustainable forest of Sitka spruce but including a significant 20% broadleaf woodland of Oak and Birch and extensive biodiversity protection. Paddy also factored into his decision making that forestry on this scale, with excellent road access, would achieve economies of scale contributing to valuable timber sales in the longer term while maximising income from annual premiums and Basic Payment in the short to medium term.



"This is his forest - his future and he is determined to gain the knowledge and develop the skills to ensure it gets the best management"

IMPACT OF PLANTING

Planting works were completed by December 2013 - the afforestation grant covered all costs. Within weeks Paddy received his first annual forestry premium of almost €28,000. As an eligible farmer he will continue to receive premiums for twenty years.

Taking all direct payments into account for 2017 (see Fig.1) – Forestry premiums, Basic Payment and GLAS – the gross income is working out at €712 per hectare. "There is no way," Paddy says, "that I was ever going to make that out of suckling. In fact the difference is even greater as my own cost of labour and general inputs are hugely reduced."

FIGURE 1. FARM AND INCOME PROFILE 2017

Total Farm size 52.69 hectares

Enterprises Forestry 45.49 hectares - Sitka

spruce 36.4 ha; Oak & Birch 9.6 ha

- P2012.

Meadow (in Glas) - 7.2 ha

GLAS

Afforestation premium 26,880* Basic Payment 7,908

Total 37,543 = €712 per hectare

*Annual premium paid for 20 years. Income tax exempt. USC and 4% PRSI** deductable.

** PRSI liability for applicants under 66 years old

Following planting there was a massive reduction in Paddy's workload and although he had sold all the cattle he was determined that he would continue to farm his remaining land. In 2015 he put this into Glas as Traditional Hay Meadow and each year, weather permitting, he cuts and sells up to 140 bales of hay or silage locally. Unsurprisingly he also planted 450 native broadleaf trees under the Native Tree planting option.

GETTING INVOLVED – GAINING EXPERIENCE

While his forest was still under contract Paddy had his first experience of looking after the young trees, under the supervision and encouragement of local forestry contractor Padraic Kelly.

This working relationship developed and since 2014 Paddy has been working part time with Padraic planting, fencing and pruning young plantations across Roscommon and Leitrim. As well as gaining huge experience and knowledge from his contractor colleagues, which he is now putting to good use in his own forest, Paddy hugely enjoys the work. "It is an important diversion, it's healthy and I'm earning a few bob."

Since 2016 Paddy has taken on full responsibility for looking after the forest. The trees are in rude health with impressive growth across all species but in such a large forest there are always jobs to be done. As Paddy observes, "Nature doesn't stop working when you do".

Jobs, for example, such as the maintenance of internal access paths and the formative shaping of the extensive plots of Oak and Birch. Paddy realises that these jobs, done early and done right, will have huge benefits for the trees and those looking after them in the years to come.



GAINING KNOWLEDGE – BUILDING CONFIDENCE

Paddy's knowledge of forestry has grown enormously since planting. This is his forest - his future and he is determined to gain the knowledge and develop the skills to ensure it gets the best management.

To this end Paddy keeps himself informed and updated by attending local Teagasc field days and seminars, consulting the Teagasc forestry website and recently attended a Teagasc/DAFM information meeting on the revised Forestry Programme. As he anticipates first thinning in as little as 6–7 years he has already attended a Conifer Thinning and Timber Measurement course run by Teagasc in 2017.

THE FUTURE

Paddy is excited about his forestry and farming future. He is emphatic that the changes to his outlook on life and farming brought about by planting have been fully vindicated and that he has "massively succeeded" in his objectives of improving his quality of life and optimising income from the farm.

He looks forward to seeing his young trees, with his help, growing into a high quality forest producing valuable timber, farming the remaining fields and all the while contributing to the wellbeing of the local environment - all things he feels the generations who farmed in Knockhall before him would be proud of. He has truly turned a new leaf.

For more information check out the following website: https://www.teagasc.ie/crops/forestry/news/2018/mid-term-review-summary.php

FIGURE 2.

REVISED FORESTRY PROGRAMME 2014-20

The Forestry Programme 2014-2020 was recently revised with new enhanced forest establishment and support grants. This will make the planting of broadleaf trees more attractive to farmers. Some of the highlights are:

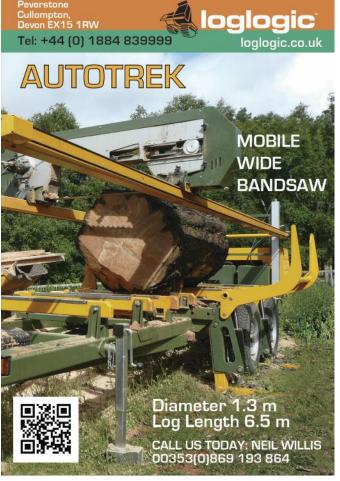
- Increases in establishment grants and annual premiums with a premium top-up for planting areas 10+ ha.
- Premium up to €660/ha to plant Oak and Beech.
- Premium up to €680/ha for Native Woodland Establishment.
- Premiums payable for 15 years.
- Agroforestry premium increased from €260/ha up to €660/ha.
 Premium paid for 5 years.
- New forest fencing and tree shelter scheme.
- 2nd thinning grant for broadleaf forests @ ${\in}\,500\text{/ha}.$
- Forest Road Grant Road density increased from 20m/ha to 25m/ha.

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THE SAW DOCTOR: LEADING THE WAY IN SMALL **SCALE WOODWORKING EQUIPMENT IN IRELAND** Since introducing Logosol to the Irish market back in 2015 The Saw Doctor has seen the

Business going from strength to strength.



s the exclusive distributor of Logosol both to the south and north of Ireland Logosol are pleased to see how the Forestry/ Woodworking Industry is growing. Having firstly introduced Logosol's very popular portable Sawmill range they have now seen a surge of interest and sales in their Planer moulder range. The modular nature of Logosol products and accessories mean that their customers can easily upgrade at the same rate as the growth of their business. It means that the customer can start off with little investment yet letting them process their trees in to valuable lumber, and as they find their feet they can concentrate on a particular area of the market they are interested in progressing in to, be it a farmer forester supplying local board or cladding to the person that wants to progress to full scale production of producing profiled Board.

FARMERS F2 CHAINSAW MILL

The Chainsaw Mill range that Logosol do is a great stepping stone into the Sawmilling Industry and as they grow they can upgrade to the next range of Mills, the Band Sawmill Range. This means less time wasted as everything goes faster on a Band Sawmill and more time spent on marketing and selling their product.

BIG MILL WIDE SLABBER

Having seen a large interest in customers now wanting to utilise large diameter Hardwood logs, instead of turning them into firewood, Logosol has the perfect solution, the Big Mill Wide Slabber Sawmill. This system helps you break these types of logs down in to Very Valuable Lumber. The system with two guide rails gives stability and the highest precision. You work quickly and safely in a comfortable working position, and after some practice, you will only need a couple of minutes to set the equipment for the next cut. This sawmill can handle log lengths up to 2.7 metres and diameters up to 135 cm. You can extend the equipment for longer logs.

B1001 BAND SAWMILL

In 2017 Logosol took the big step of introducing its first in-house developed Band Sawmill, the B751 that has been received very well from customers all around the world. Since then in 2018 Logosol has introduced its second Band Sawmill, the B1001 which is a bigger version of the B751 and can handle logs up to 100cm in diameter. You can see Logosol at the National Ploughing Championships Ireland and APF Forestry Show UK.

"With innovative and affordable solutions, they have visibly changed forestry and woodworking for more than 25 years"

From felling to finished wood products, with Logosol's line of products you will be in charge throughout the entire process. In Logosol's range you will find everything from chainsaws to industrial machines.

Since the introduction of Logosol, their customers have given them countless positive responses, ranging from the pride they feel owning Logosol's reliable machines to the pleasure they experience when producing wood products from their own timber.

Logosol is a Swedish based international company developing and selling unique machines and services within the wood processing and woodworking industry. With innovative and affordable solutions, they have visibly changed forestry and woodworking for more than 25 years. Logosol products are known for simplicity of design, reliability, and efficiency. The most diverse range of products and services in 65 countries has made Logosol global leaders in the industry.

Logosol's products have become a firm favourite in Ireland amongst Farm Foresters. Instead of selling all their thinning they can now select and utilise the best of their thinnings and convert them in to real money.

Logosol has a fantastic Planer Moulder Range that consists of Moulders that have 2, 4 and 5 Cutter Heads and can produce a vast array of mouldings. The most interesting aspect of all is the price at which they can supply these fantastic well-built machines.

This year the National Ploughing Championships Ireland and APF UK will once again see Logosol put on a fine display as well as demonstrations of their products, This will include the new Band Sawmill Range, upgraded Farmers F2 Chainsaw, new Wide Slabber Sawmill, Planer Moulder Range and other products. At Logosol they are not just interested in selling you a product but helping you achieve your vision in what way you want to process your wood. And with an extensive knowledge in this industry they are able to do so.

For Information on all Logosol Products and all Show/ Demonstrations Dates please contact Logosol Ireland Roland Flower The Saw Doctor on Tel: +353 851395457 or e-mail info@logosol.ie website www.logosol.ie and for all UK enquiries please contact Logosol UK on Tel: +44 1844 238930 or e-mail: info@logosol.co.uk website: www.logosol.co.uk





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GRANT AID FOR GROWING TREES FOR WOOD ENERGY

The Afforestation Scheme offered by the Department of Agriculture, Food and the Marine, includes a range of options (Grant and Premium categories 'GPCs') for landowners considering planting forestry.



orestry can help landowners to increase their income by optimising the use of marginal land, serve as a long term option when planning for retirement and, in the case of farmers, facilitate off-farm work opportunities. Farmers have many options open to them when it comes to introducing forestry as part of the farming mix, two of which are Agroforestry (GPC 11) and Forestry for Fibre (GPC 12). The Forestry for Fibre Scheme provides financial assistance to landowners who want to plant trees for use as domestic fuel or as an energy source for local facilities generating heat and/or electricity. It is an option worth serious consideration in view of the growing focus on environmental issues and renewable energy.

form of bark, sawdust, shavings and other by-products of the sawmilling industry.

- ➤ The next largest user is the domestic firewood market with over 200,000 m³ used each year.
- > The third largest use is in high efficiency combined heat and power plants (CHP) in large commercial installations such as pharmaceutical plants, food processing plants and leisure centres.

Almost 1.6 million m³ of forest based biomass was used for energy purposes in 2016. Domestically produced wood was the primary source of this material and abated 761 kT of CO2 emissions from fossil fuels. According to COFORD's latest "Woodflow and forest-

"The Scheme also presents opportunities for farmers to diversify their income stream by supplying firewood to local markets"

THE MARKET FOR FORESTRY BIOMASS

Biomass from Irish forests is a clean renewable energy source. The COFORD publication on "Growing the Irish Forest Bioeconomy" noted that wood biomass provides approximately 25% of Ireland's renewable energy. It also noted that:

➤ The largest user is the wood processing industry which consumes almost 800,000 cubic metres (m³). Most of this biomass is in the

based biomass energy" report, the domestic firewood market alone was worth €34million in 2016.

OVERVIEW OF THE FORESTRY FOR FIBRE SCHEME

Forestry for Fibre is forest-based biomass for use in energy generation; however, it is also suitable for use in the manufacture of panel board.



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The Forestry for Fibre scheme is a separate grant and premium category (GPC) administered as part of the main Afforestation scheme, with eligible species listed below. Details of the eligible clones are available in the detailed scheme documentation, accessible on the Department's website.

Forestry for Fibre Scheme - Eligible species
Italian Alder
Hybrid aspen
Eucalyptus
Poplar

ADDITIONAL INFORMATION

Trees planted under the Scheme can be harvested in 10 - 15 years, generating yields of between 150 - 300 cubic metres (m³) per hectare. This rotation is significantly less than conventional forestry where conifer forests mature between 35 and 40 years. As well as reducing domestic heating costs, the Scheme has an important role in Ireland's transition to a low carbon and climate resilient future -

by sustainably growing trees for heat and electricity generation, fossil fuels are replaced with a renewable source of energy. The Scheme also presents opportunities for farmers to diversify their income stream by supplying firewood to local markets.

Once land is converted to forestry for fibre, it will be classified as forest land and the provisions of forestry legislation apply. This means that, when harvested, the site must be replanted with trees.

GRANT AND PREMIUM RATES

The Scheme was made available under the Forestry Programme 2014-2020 and was enhanced following the recent Mid Term Review of the Programme. The Scheme was improved as follows:

- Number of premiums increased from 10 to 15
- Premium rate increased to equal GPC3 (Sitka spruce with 15% diverse conifer/Broadleaf)
- Grant was increased to match that of GPC 3
- A single GPC (12) was created by combining GPC12a and GPC 12b
- An increase of 2% in premium rate for all plantations greater than 10 hectares meaning that the rates for the Forestry for Fibre Scheme currently available are:

(See Grant Rates and Premium Rates in the Tables at the end of this article)

APPLICATION PROCEDURE

The same eligibility criteria applies as that set out for the Department's Afforestation Scheme. Applications for afforestation approval must be made through a registered forester to the Approvals Section of the Department's Forestry Division based in Johnstown Castle, Co. Wexford.

FURTHER INFORMATION

Co. Wexford

This article provides an outline of the Scheme and must be read in conjunction with the relevant Scheme Document. Application forms and further information are available from:

Approvals Section,
Forestry Division,
Department of Agriculture, Food and the Marine,
Johnstown Castle Estate,

Telephone 053 916 3400 or 0761 064 615 and the Department's website at:

https://www.agriculture.gov.ie/forestservice/grants and premium schemes 2015-2018/

Grant rates:

GPC	1st Grant	2nd Grant	Additional fencing Allocation	Total Grant Available
	per hectare (ha)		(IS436), 140m/ha	per ha
GPC 12 – Forestry for Fibre	€2,410	€805	€600	€3,815

Premium rates.

GPC	Annual P	Duration (years)	
	per he		
	<10ha	>10ha	
12 – Forestry for Fibre	€510	€520	15









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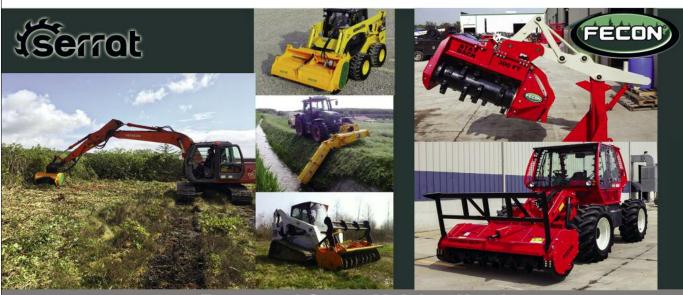


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- 2015 Alstor 3 cylinder CAT Diesel roll bar, 4.2m crane 2 lever crane control, radio remote boom mounted winch, reverse drive, 4 bunks.
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OAKLEAF FORESTRY

Oakleaf Forestry are excited to announce the addition of the Sampo Rosenlew range of low impact harvesters and forwarders and will launch the HR46x Harvester at the APF 2018 show - Demo Area 800-840.



ampo Rosenlew was established in 1991 in Finland. First known for their combine harvesters, Sampo added forest machines to their production line in the late 90's and haven't looked back since. When growing wood in a forest, we aim at maximizing the yield-not only in terms of volume but also in terms of quality. Thinning is the most important tool for maximising the forest's potential.

Sampo forest machines are specially designed to be compact, durable and very manoeuvrable for thinning operations while still being powerful enough to be effective in UK forest conditions. The forest machines are able to move through the forest effortlessly and cause less damage to the soil than other larger 6 wheeled machines. All Sampo harvesters and forwarders are a great investment for any contractor. Their large fuel tanks and low emission engines mean that they are not expensive to operate.

SAMPO HR46X HARVESTER – HIGH CAPACITY 4 WHEEL HARVESTER SPECIALLY DESIGNED FOR FIRST THINNING.

The HR46x Harvester has plenty of power packed in for a forest machine of its size. The large turning angle, its compact size and practical design enables the harvester to easily manoeuvre through the dense young



SAMPO HR28 FORWARDER – HIGH-QUALITY THINNING OPERATIONS

This 10-tonne forwarder is designed to complement the Sampo Harvester on first thinning operations. The FR28 thrives when in young dense forests. This is due to the forwarders narrow dimensions and optimised weight distribution between the front and rear axles. This ensures that the ground and remaining trees are hardly affected by operations. This FR28 offers the operator a unique manoeuvrability with its articulated steering that turns 45° .

The cab of the forwarder is extremely spacious with exceptional visibility. Long working hours will be no problem to the operator as the cab is very comfortable and silent. The low emission diesel engine ensures that the forwarder is not expensive to run. Operating this forwarder is very simple and user-friendly with the mini lever controls on the armrest.

This forwarder can be ordered from the factory with a loading space length between 3.8 and 4.4 meters. The headboard in the front of the space is hydraulically adjustable.

For more information email: info@oakleafforestry.com or visit www.oakleafforestry.com.

"The forest machines are able to move through the forest effortlessly and cause less damage to the soil than other larger 6 wheeled machines"

forests without damaging the remaining trees and preserving the soil. The HR46x harvester is easy to operate, productive and cost-effective. The capital investment and running costs are low but the machine production is higher than heavier machines.

Equipped with a large fuel tank, enables the forest machine to work long periods before having to refuel. The HR46x consumes less than 7 litres of fuel per hour. The driving power transmission is fully hydrostatic. It is a robust machine, the axles and wheels are difficult to damage. The cab of the Sampo harvester is extremely comfortable. The operator has excellent visibility in all directions. The harvester is equipped with the robust and well-proven crane and harvester heads from Kesla. The machines benefit from all the latest technology and equipment that we expect from the larger machines on the market and there's a wide range of optional equipment to suit every application.







Demo area 800-840

APF 2018



















FOREST TRAINING AND MACHINE OPERATOR TRAINING IN BALLYHAISE COLLEGE, CAVAN

All stages of the forest cycle are included in the course content from nursery and establishment to thinning, harvesting and reforestation, writes Marianne Lyons.



eagasc Ballyhaise College has delivered forestry courses to hundreds of students over the years and recently celebrated 30 years of forestry training and education in May 2018. The course content has evolved over the decades to offer students the best possible opportunities to develop their career in the forestry industry.

All stages of the forest cycle are included in the course content from nursery and establishment to thinning, harvesting and reforestation. There are over 40 hectares of woodland habitats and forestry within the College estate including research plots, provenance trials, Christmas trees and agroforestry. This area is used and managed for practical training purposes and this year the college won an RDS Community Woodland Award, highlighting the multi functionality of forestry. The most recent development at the college has been the introduction of a new forestry harvesting simulator and the development of a Forest Machine Operator Training Programme.

The established Level 5 and level 6 Forestry courses at Ballyhaise College currently deliver comprehensive training in forest safety, sustainable forestry, environment, silviculture and forest calculations as standard. A practical learning period is also a requirement of the course. Many students continue to be employed by hosts after they graduate. Students gain work experience in a range of different areas including forest establishment, planting and maintenance; tree care and arboriculture; chainsaw operation or forest machine operation; sawmills and timber processing. Students who complete the Level 5 course can advance to the Level 6 course or apply for advanced entry into year two of the forestry degree programme at Waterford Institute of Technology.

The machine harvesting programme recognises for the first time the range of skills and knowledge necessary to be a professional harvesting operator and complements the existing industry standard.

THE COURSES INCLUDE TWO SEPARATE COMPONENTS:

- 1. Forwarder operator
- 2. Harvester operator

New entrants into the forest industry are advised to complete a minimum of a level 5 forestry qualification before embarking on the harvesting machine skills qualification. Existing operators who are not in a position to attend full time courses will still be able to fulfil various assessment criteria to become certified and qualified to the proposed QQI level.

The use of a simulator is a whole new approach to training operatives of modern harvesting machinery in Ireland. It allows for the first time to identify a trainee's aptitude to work in a highly technical process. This can save considerable time and money as the cost of training on real machinery can be prohibitive for new entrants.

Students at Ballyhaise College get an opportunity to practice their skills on the simulator without the associated cost or logistical issues of placing them on real machines. There is built in training software in the simulator which allows students to go through a series of different tasks on both the forwarder and harvester.

For the forwarder these tasks range from operating the mini-levers, handling logs, loading and unloading. On completion of each task the individual is scored and can then repeat the task or move on to the next one depending on their score. Tasks are progressive and



scoring becomes more difficult as the operator advances. There are a similar set of tasks for the harvester related to felling, felling direction, product lengths, different species and work areas.

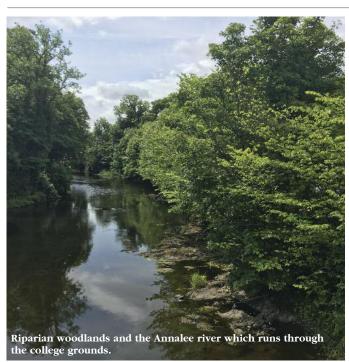
Each student gets their own account with username and password and can save their score sheets in to review at a later date or access them remotely online through the Timberskills® website. There is supporting guidance material in video and written format available for the operators to review at any stage while they are logged on and progressing through tasks. This system allows the student and the supervisor to monitor progress and identify students who have an aptitude for machinery operation. Subsequently students can be linked with a registered host to complete a practical work placement. The purchase of this John Deere simulator by Teagasc was made possible through financial support from the Forest Service

and in cooperation with industry representatives from the Forest Harvesting Training Forum.

The QQI assessment and certification process for forest machine operators includes 4 stages: The simulator tasks as outlined above, practical placement and completion of a logbook for specific work activities and machine operation hours, a written theory exam and a practical machine assessment. The forest machine operator training programme allows individuals access to a structured, quality assured training process, supported and recognised at all levels of the industry. The training resources will be accessible to new entrants and existing operators with options to advance and build on training and education if desired.

Industry forecasts show that the private sector will contribute to over 50% of the total timber supply within ten years. Over the

"The most recent development has been the introduction of a new forestry harvesting simulator and the development of a Forest Machine Operator Training Programme"



period to 2035, the harvest of roundwood from Ireland's forests will double to 7.9 million cubic metres. Almost all of the increase in supply will come from the privately-owned forests in the Republic of Ireland. If achieved, this increase in wood supply will have significant benefits for rural employment and the rural economy (IFFPA, 2018). Between Coillte and the private forestry sector a continuous supply of highly skilled operators will be required over the next decade. Recruitment and training are necessary to maintain standards and to maximise the timber resource potential. This strategic approach to up skilling existing operators and introducing new operators is essential for maintaining a sustainable forest industry and rural economy.

Further information on course content and application forms are available by contacting Teagasc, Ballyhaise College, Co. Cavan on Tel: 049 4338108 or by email: ballyhaise.college@teagasc.ie.

The forestry course is open to all EU citizens and applicants GB & Northern Ireland can apply online through the Teagasc.ie website: https://www.teagasc.ie/education/going-to-college/apply-online/forestry-courses.

FORESTRY AND ENVIRONMENT AWARENESS AND CAREERS DAY

Ballyhaise College would like to thank all the participants in their recent open day which was both enjoyable and informative, by Kevin O' Connell.



Past students of Ballyhaise College Richard Cassidy (L) and Nigel McDowell (R) try out the simulator at the open day in May 2018

his year Teagasc Ballyhaise College, Co Cavan is celebrating 30 years of forestry training and education. All stakeholders involved in the forestry sector agree that education and skills training play a critical role for sustainable development. Ballyhaise is the only College in Ireland providing courses to Level 5 and advanced Level 6 forestry and forest machinery operation. There is an increasing demand for educated and skilled personnel and this is reflected in the career opportunities available to the new entrants to the industry. To mark this occasion an Open Day was held on Thursday 10th May highlighting opportunities in forestry and related environmental areas.

On the day representatives from different forestry and environmental agencies were present to create an awareness of their roles. They highlighted the added value opportunities for forest owners, career paths options for prospective students and information for the public.

There were static and working demonstrations on show with opportunities to interact and chat with all the relevant exhibitors



Brendan Lynch (L) and Conor Kenna (R) from Roundwood Timber with a new John Deere forwarder at the open day in May 2018.

and a renewable energy resource is increasing. This can be achieved with an appreciation of added environmental value and wider social benefits. Opportunities exist across the sectors for forest owners, skilled operatives, self-employed contractors and graduates."

The day provided a great opportunity for school goers, forest owners and members of the public to meet educators, agencies, organisations and representatives from the forestry and tree care sectors. Present were Teagasc Education, Advisory and Research. Also in attendance were UCD, WIT, GMIT (Letterfrack), DAFM (Forest Service), NPWS, Inland Fisheries, Met Eireann, Society of Irish Foresters, Geological Society of Ireland, Soil Science Society of Ireland and Cavan County Council among others. Forest and Treecare companies included Balcas sawmills, Glennon brothers sawmill, Coillte Teo, Greenbelt Ltd, Allied woodlands, Northwest Forest Services and Dermot Casey.

Ex-graduates from Ballyhaise College outlined their career paths since finishing college. Graduates employed by Balcas and Glennon Brothers sawmills, by the Forest Service and the Northern Ireland

"Opportunities exist across the sectors for forest owners, skilled operatives, self-employed contractors and graduates"

from the industry, state agencies and colleges. Options relating to forestry and the environment included climate and weather, water quality, fisheries soils, geology, wildlife, biodiversity, recreation, heritage, sustainable energy, tree care, etc. Forestry companies and consultants were also present to discuss establishment and harvesting options with potential and existing owners.

Forestry Lecturer at Ballyhaise College Marianne Lyons, explained why this was a very beneficial day for anyone interested in Forestry and the Environment. "Forestry is not a standalone industry and is not just about timber production; In order to have a sustainable resource the forestry industry operates in close cooperation with environmental land use agencies and organisations to produce sustainable products and related services. The demand for timber

Forest Service, with private forestry companies, in the tree care industry and self-employed in forest contracting. Roland Flower, Logosol Ltd and Jeffery Borland, Jas. P. Wilson provided live demonstrations of their wares. John Deere Forestry Ireland and Roundwood Timber very kindly provided a 1510G forwarder for the public to see.

The local Cavan Man Shed showed off their timber products and one of real interest was the Erne Cot, a wooden boat used in the past for transporting goods and people on the river Erne. Joseph Doherty exhibited his wooden sculptures on the RDS prize winning community woodland walk.

Ultimately this was a very enjoyable and informative day for anyone interested in forestry and the environment.

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WHEN THE FLAG DROPS....

Anthony Ryan, After-Sales Manager, McHale Plant Sales - distributors of Komatsu Forest machinery in Ireland – speaks to *Forestry & Energy Review* about the important subject of machine maintenance.



here's an expression in motor racing that goes like this: 'When the flag drops, the b******t stops'. It's that time when all the boasting stops and real life experience and performance takes over. And so it is with the purchase and operation of any item of plant, from the most humble piece of equipment up to the most sophisticated item of plant or machinery.

It's that point in a transaction when a purchase ceases to be something you are being persuaded to make, to something you have just made – the point at which size and purpose really don't matter. From a hand held telephone to a giant dockside crane, it is that point at which the 'prospective customer' instantly becomes the customer.

For the timber producer, what are the lessons one should learn when purchasing and operating machinery as expensive, as complex, and as vital to the smooth and uninterrupted operation of a business as forestry harvesting and forwarding machines are? Interviewed by *Forestry & Energy Review*, Anthony Ryan had these valuable words of advice to offer.

"The first piece of advice I give to any prospective owner is this: do your research. Talk to existing owners, and study the relative strengths (and weaknesses) of the machine you are most interested in buying".

DEVIL IN THE DETAIL

"Pay particular attention to those key intangibles that are not always printed in the brochure or spoken about in a YouTube video – matters like history in the marketplace, user experience, operator feedback, build quality, warranty position, claims and experience, vulnerability to wear and tear, technical support, downtime levels,

parts availability, financial back-up, geographical spread of techteams, price retention, trade-in and re-sale values, and so forth.

"When the machine is delivered into your yard, don't rush it into service immediately. Take time to get to know it. Read the manual... then read it again and again.

"Identify the things to do, when to do them, and the little points you are cautioned to take note of. It's amazing the number of owners who don't undertake such study...to their cost! Walk around the machine, examining it in detail so you get to know where things are especially those regular maintenance points - and how to access them.

"As a proud owner, you would have a true purpose in getting to know your back-up team. Don't hesitate to trigger those introductions – indeed, you may well include such meetings in your list of thingsto-do pre-purchase".

Ryan also puts forward the idea that owners meet key staffers such as the after-sale service and parts people – the people he says "you expect would react to your emergency and spring to your support should a need ever arise".

Noting that forestry harvesters, in particular, and forwarders too, are tough machines, built to deliver shift-to-shift reliability and productivity throughout the working year, Ryan notes that "like any item of equipment, they don't like abuse, nor do they respond well to being ignored, nor will they live forever, especially when mistreated".

"In the case of a new-to-you machine, make sure your operator is properly instructed and as knowledgeable as you are in the care and maintenance requirements of your machine and of its ongoing needs. It should not be sufficient for him (or her) to jump into the operator's seat and go."



KEY MACHINE FEATURES:

"Identify those features of the machine that are the most essential to its smooth operation and most vulnerable to careless operation, abuse and manhandling. In a harvester, these surely are found in the cutting, stripping, lifting, measuring and sizing technology and parts located within the head. Treat them with respect and they will serve you well, play crash-bang-wallop with them, and you may live to pay the price in downtime and replacement parts."

Similarly, with forwarders - though less technically complex, to be truly productive, they must transport heavy loads within the forest, across undulating, hazard-strewn, soft and irregular ground surfaces.

own in-house maintenance team is well instructed and takes part in recommended factory training programme.

"However good, however responsive and however supportive your official supplier may be, do invest in your own stocks of replacement parts – especially those most vulnerable to damage and breakdown."

KNOW YOUR DISTRIBUTOR

Finally, and arguably the most important advice that one can give, Ryan believes, is that customers should engage with their distributor concerning all aspects of after-sales service. "Go the extra mile and

"The first piece of advice I give to any prospective owner is this: do your research.

Talk to existing owners, and study the relative strengths (and weaknesses) of the

machine you are most interested in buying"

GROUND CONDITIONS

"In such conditions, the pressure on tyres, wheels, axles and suspension systems is acute, as is the threat to low-lying engine and hydraulic parts and undercarriage systems, not to mention the damage, and injury, that an unfortunate rollover could cause. Once again, the need to instruct and caution operators is underlined," Ryan said.

"We all know and understand how tiresome it can be to withdraw a machine from service in order to perform those checks and maintenance routines. The 'we'll leave it until next week' is an evertempting option. Unfortunately, the self-prophesising likelihood defined in Murphy's Law is that – during that very period – something will go wrong - something that could lead to greater cost and downtime than the maintenance check itself would have ever done.

"My advice is: Never overlook those simple, easy, regular checks that the manufacturer recommends. Draw up a roster for more major maintenance routines, and follow it religiously. Make sure your

commit to those all-inclusive service and maintenance packages that are offered," he said.

"At McHale Plant Sales – as with any wise distributor – we regard the delivery of every new machine as marking the beginning of what we hope would be a long and enduring relationship, not just with our company but with the Komatsu brand in general, and with those various other brands we represent.

"As long-standing distributors of Komatsu construction plant – excavators, loaders, dozers, etc. – we have an intimate knowledge, not just of how Komatsu machinery works and of their latest technological advancements and in-built features, but of the culture of customer care they look to us to uphold.

"Our appointment to represent Komatsu Forest is one we have grasped with enthusiasm, one that has brought us into new territory in terms of operational and back-up service imperatives. However, it is not so new that we have not long ago learnt the importance of maintenance and service enshrined in the dictum: A machine is only ever earning its keep when it's working," Ryan emphasised.

A NATIONAL SCANDAL

Miscanthus bales being exported to the Briggs Power Station, UK.

"Ireland's Loss is Britain's Gain". By Paddy O'Toole & David Tyrrell of Quinns of Baltinglass Ltd.



MISCANTHUS SOLD OUT - WHAT A DIFFERENCE A YEAR MAKES!

This time last year Quinns were concerned about lack of storage facilities to accommodate the 2018 Miscanthus harvest. Today we have barely enough stock to meet our immediate requirements!

This should be a good news story for all relevant stakeholders - the growers, the end users and the Government.

Unfortunately it's only a good news story for the end users, a Danish Investment Group, based in the U.K. and of course the U.K. Government.

The amount of energy exported by Quinns to the U.K. would have contributed in excess of three million euros in savings to the Irish Government which is woefully short of reaching its Renewable Energy 2020 commitments.

Apart from periodic platitudes with respect to "imminent" new REFIT, RHI Schemes, and promises of bright new dawns by various Ministers and their respective civil servants over the last ten years , the pioneering growers and end users and indeed the Irish People have been sadly let down on each and every occasion.

SIMPLE FACTS

- 1. Ireland's obligatory renewable energy commitment is 16% by 2020.
- 2. In real terms, this equates to 1872 KTOEs (Kilo tonnes of oil equivalent).
- 1 TOE is equivalent to 41.86 Gigajoules of energy.
- $1\ tonne\ Miscanthus\ at\ 20\%$ moisture content will produce $.36\ TOE.$
- 3.To reduce Ireland's renewable energy target by only 1% will therefore require circa 325,000 tonnes Miscanthus or its equivalent in other types of biomass e.g. Wood chip, Pellets etc.
- 4. It is widely predicted that Ireland will face fines of between 100 to 150 million euros for each 1% default in its commitment of 16%.
- 5. At fines of €150 million per 1% default, 1 tonne of Miscanthus would save the Government €460. It's high time that some tangible respect be paid to Miscanthus before it becomes yet another lost opportunity.
- 6. The most optimistic indications to date are that Ireland will fail to meet its obligatory target by 3 to 4%!

THE LONG AWAITED AND MUCH HERALDED RHI (Renewable Heat Incentive Scheme)

The details of this scheme have been eagerly awaited by industry since 2014 and still it's the same all too predictable story - "we expect the Minister to officially introduce and launch the Scheme at the next Energy Conference in a couple of months etc etc."

The "Cash for Ash" controversy in Northern Ireland has really scared our poor civil servants and so concerned are they not to be caught in a similar type situation, the RHI Scheme, which will eventually come to fruition in the Republic will be far too conservative to entice the medium sized industrial users (200,000 litres heating oil) to go to the expense of changing from fossil to renewable energy fuels.

Presently due to the continued absence of any type of RHI scheme, there is really nothing happening in the heat sector.



"To reduce Ireland's renewable energy target by only 1% will therefore require circa 325,000 tonnes Miscanthus or its equivalent in other types of biomass e.g. Wood chip, Pellets etc."

During the last twelve years Quinns have met many Ministers, their civil servants and at their requests have produced many valuable proposals and reports.

All the Ministers we have met in the intervening years and their civil servants have been largely enthusiastic and supportive but unfortunately, once we feel that there is a really good person about to achieve great things, that person is invariably transferred to some other Department and the whole "merry go round" starts again!

A number of different Government Departments have traditionally shared some of the responsibility in the promotion of both the growing and utilisation of energy crops and this has and is still contributing to a complete lack of a cohesive strategy in this area.

Totally and absolutely frustrating! The time for incurring the inevitable enormous financial penalties is fast approaching and while Nero continues to play his fiddle, Rome is burning but not from renewable energy fuels!



The price of heating oil is going only one way UP, UP, UP....

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GROWING EUCALYPTUS FOR FUEL AND FIBRE IN IRELAND

As improved grants come on stream for this sector, analysis is needed to identify strengths and weaknesses. By Tom Kent, Enda Coates, Ana de Miguel, Brian Cronin & Chris McGurren (Waterford Institute of Technology).



Figure 1. Recent changes to the Afforestation Grant Scheme may increase the establishment of Eucalyptus in Ireland.

he Department of Agriculture, Food, and the Marine (DAFM) recently implemented changes to the grant and premium rates available to growers establishing Short Rotation

Forestry under the Forestry for Fibre scheme. The scheme, which aims to promote the planting of forests which can provide a clearfell crop within 10 − 15 years, had not attracted many landowners, but this may change with establishment grants of up to €3815 per hectare to offset establishment and early maintenance costs, and an annual premium payment of up to €520 per hectare guaranteed for 15 years.

The management objectives of Short Rotation Forests are to produce fibre material for use primarily in the panel board and wood energy markets rather than for sawn timber. This scheme, in combination with the Agro-forestry scheme, has a target of planting 3,300 ha by 2020. The scheme supports single-stem forests that will have stem dimensions larger than woody multistemmed energy crops such as willow coppice, and that can be managed using standard forest operations and methods. Eucalyptus, Italian alder (Alnus cordata) hybrid poplar and aspen are supported under the scheme. Specifically, *Eucalyptus glaucescens, E. gunnti*, *E. nitens, E. rodwayi* and *E. subcrenulata* are the species supported, though other Eucalyptus species may be approved by the Forest Service on request.

SHORTFOR - EXPLORING THE POTENTIAL OF SHORT ROTATION FORESTRY (SRF) IN IRELAND

Researchers at Waterford Institute of Technology are working with a multidisciplinary team from University College Dublin, Trinity College, University of Limerick and Teagasc to evaluate the potential of Eucalyptus and other Short Rotation Forestry species in Ireland. The project is funded by the Department of Agriculture, Food and the Marine, as research is needed to investigate ways to offset some of the predicted shortfall in supply of timber for biomass and assist in achieving renewable energy targets. While Ireland's renewable energy targets are set to increase to 16% by 2020 under European directive 2009/28/EC, there is a predicted shortfall of 1.7 million m3 of forest biomass in Ireland, with demand set to increase to 3.1 million m3. The requirement of renewables for electricity generation is set higher at a target of 30% of Ireland's electricity needs by 2020. There is perhaps a potential role for short rotation forestry (SRF) and other sources of fibre to supply much of this predicted shortfall.

SUCCESSFUL ESTABLISHMENT OF EUCALYPTUS

A survey of 4 – 7 year old Eucalyptus plantations in Ireland has identified a high rate of mortality on many surveyed sites, ranging from 11% to 62% of the original planted stock. Recent research on establishing field trials supports the view that incorrect planting technique may contribute to tree mortality in the first year of planting. Planting staff should be trained in correct procedures and supervised regularly to ensure the following good practice is upheld. While Irish tree planters are experienced with planting bare-root conifers and broadleaves, handling and planting Eucalyptus plugs requires a different treatment.

Eucalyptus is produced for planting in the form of containerised seedlings or plugs. Plugs are typically 20 – 40 cm in size and smaller plants may do better on exposed sites. The plant is fragile at this point so care and attention is required in handling and storing Eucalyptus seedlings. Plugs should be protected from frost and from drying out. Seedlings should be stored in a cool location and planted within two days of delivery.

Suitable sites are enclosed land under 200 m elevation, on fertile, free-draining mineral soils or surface water gleys. *Eucalyptus nitens* should only be planted within 50 km of the coast outside frost prone sites. Effective pre-planting weed control is important, and compacted soil may need to be loosened sub-soiling with a ripping bar. A narrow spade may be used to prepare a suitably loosened hole of adequate size to accommodate the root plug. Soil compaction and smearing should be avoided when preparing hole in soil. Dibbles are not suitable as they compact and smear



Figure 2. *Eucalyptus nitens* in Cappoquin, Co. Waterford: standing volume of 660 m^3 per ha and mean tree volume of 0.8 m^3 after 23 years.

soil in the hole. Spreading out the roots may be good practice for other species but it is not advised for Eucalyptus as the root system is particularly sensitive to damage. Plugs should not be planted into rocky or stony debris or with air pockets in the hole. The plug should be planted upright and straight firmly in soil by pressing the soil around the stem with your heel. Most importantly, the planted plug should neither be too shallow nor too deep in the soil. The top of the plug should be 2-4 cm below the surface of the soil with the top covered with soil to prevent desiccation. Planted too deep, the seedling stem may rot at soil level.

EUCALYPTUS PRODUCTIVITY & PROPERTIES

Fifteen sites were measured for current productivity: twelve *E. nitens* sites, two *E. gunnii* sites, and one *E. delegatensis* site. The majority of the sites were five to seven years old, with two of the sites being more mature at 22 and 23 years of age. All the stands had been established on reforestation sites. Mean stand top height for the 7-year-old plantations ranged from 7 m to 13 m. The 22 and 23-year-old plantations had top heights of 28 m and 33 m, respectively. Overall, the aboveground biomass productivity at the younger sites ranged from 0.4 oven dry tonnes per hectare per year (odt/ha/yr) to 6.4 odt/ha/yr. The older sites had a productivity of 8.2 odt/ha/yr and 12.6 odt/ha/yr. These two older sites had mean tree volumes of 0.80 m³ and 0.88 m³.

Basic wood density averaged at 450 kg/m³ for 60 measured samples. Gross calorific value for wood was 19.4 Mega joules per kilogram. Ash contents were higher than typically quoted wood biomass values for both stem and bark partitions. The ash content of the stem was 1.2%, slightly higher than the EN value range of 0.2% to 1.0%. The ash content of the bark was nearly twice the upper range of typical values quoted in EN literature at 5.7%. One cause for concern, using Eucalyptus for bioenergy, was high chlorine concentration, with stem and wood partitions were both on average over twice the typical wood biomass range. The bark partition was observed as having a chlorine content of 0.34%, which is approximately seven times the typical wood bark value.

EUCALYPTUS MARKETS

A survey was carried out of 30 companies in the energy, fibre and sawmills sectors to assess their perceptions on the suitability of Eucalyptus as a raw material. Also data was gathered on current company production, scale, material requirements, species used, price paid and source of supply. The objective was to identify market opportunities, if any, for growers. The raw material intake for interviewed companies ranged from 400 to 650,000 tonnes per annum and the price they paid at the mill gate for softwood roundwood varied from $\leqslant 34$ to $\leqslant 108$ per tonne, with price aligned with piece size but not quality. Most of the interviewees (76%) were not familiar with using Eucalyptus, however 30% of



Figure 4. Eucalyptus is very sensitive to damage when handling and planting as a plug.

companies were favourable towards using it, in particular for wood fuel and for pallet manufacture. Security of raw material supply and scale of supply were two of the biggest concerns raised by end users, particularly when there is little Eucalyptus currently and future supply may come from diverse private plantations.

A comparative survey was completed in Oregon, USA, where a short rotation forest resource was successfully developed based on hybrid poplar. The key findings



Figure 5. Due to straight stems, self-pruning branches and small crowns, Eucalyptus can be mechanically harvested, such as in this 17 year old stand in Co. Tipperary.

were: research into the matching species and site; managing plantations for productivity and timber quality; and information provision of wood properties were management systems, were vital to give landowners and end users confidence to work with a new system. Large scale plantations, local supply chains and efficient use of all parts of the standing tree through optimised product allocation during harvesting made wood supply chains cost-effective. Fuel and fibre markets alone were not sufficiently profitable so sawnwood markets for higher value products were necessary to generate roundwood prices at a level profitable to the grower.

FURTHER INFORMATION:

Further information on the SHORTFOR Project may be found here: https://www.teagasc.ie/crops/forestry/research/shortfor-project/

Further information on the biomass properties of Eucalyptus may be found here: http://iwfdb.forestenergy.ie/eucalyptus.php

Further information on the survey of Eucalyptus plantations in Ireland may be found here:

Enda Coates, Brian Cronin, Ana De Miguel, Chris McGurren & Tom Kent, 2017. *A characterisation of eucalyptus short rotation forestry plantations in Ireland.* Irish Forestry, Volume 74. www.societyofirishforesters.ie

Further information on the Forestry for Fibre scheme may be found here:

https://www.agriculture.gov.ie/media/migration/forestry/grant and premium schemes/2016/ForestryFibreWEB220816.pdf



Figure 6. Eucalyptus is capable of yielding large quantities of roundwood for fuel, fibre and potentially sawn timber on a short rotation of 15-20 years

PRODUCT NEWS PAUL VIDGEN FOREST MACHINES LTD



aul Vidgen has been involved in the mulching, land-clearing and forestry business for 30 years both as a contractor and as a supplier of specialist equipment. As the industry moved away from rake and burn clearance work in the late 90's, Paul imported and ran the first tracked self-propelled mulcher in the UK. Soon afterwards he became the sole dealer for AHWI, now Prinoth equipment in the UK and sales took off. In recent years Paul has added other equipment to the company's range including many items designed and built specifically for land clearing work.

Ahwi Prinoth machinery remain at the forefront of mulching technology and the latest offerings from the company are no exception, having to embrace new exhaust emission standards the latest Raptor 800 and Raptor 300 have Caterpillar Tier IV engines using Ad Blue, these offer excellent reliability and very good fuel economy. Like all Ahwi carriers they feature efficient mechanical drives with a turbo-clutch.

The Raptor 300 can be had with a standard three-point linkage and 1000rpm PTO (allowing other attachments like stump grinders and chippers to be used) or a direct belt drive to the mulcher. Raptor 300 can also be had with a rubber track system for short trips on the road. The Raptor800 has a dedicated heavy-duty drive line to the 900mm diameter rotor making it one of the largest self-propelled mulchers available. The RT400 crawler that has become the benchmark for track mulchers in the UK with more 400's working than all other makes put together. It will be replaced by an all new Raptor 500 model with Cummins engine in 2018 so look out for this at the APF Show.

Ahwi are also manufacturing a full range of Mulchers, Stump Grinders and Rotovators for mounting on tractors, excavators and special carriers. As well as mulchers PVFM offer a range of other equipment for Biomass, forestry site prep and land clearing work. We are the importers for the UOT Range of Scarifiers and Mounders. Available as tractor or forwarder mounted units these are the perfect solution for tree establishment in restock sites or bare ground. The machines are simple and tough using high quality components such as Black Bear motors for our disk drives. TreviBenne manufacture a full range of excavator mounted Tree Shears, Wood Splitters and Stump Shears; all made with top quality materials such as Hardox plate, PVFM have a range of machines in stock for hire or demonstration. After many years of operating Bruks Chippers as part of our hire business, PVFM are delighted to be able announce we are the UK dealer for Bruks Chippers, we have just sold the first new 806.5 500hp unit for forwarder mounting and are hoping to have a PTO 806.2 on the stand at APF.

Used and reconditioned equipment is often available so whatever your requirements are please give us a call. Email: info@pvfm.co.uk and Tel: 01344 873499.



CHS provides a unique platform of customised packages of alternative energy solutions, ranging from initial consultancy and design right through to installation for those interested in lowering their costs and carbon footprint.

With spiraling fuel costs we have to look at alternatives to heat our premises in a cost effective way. As a leader in the industry, Choice Heating Solutions Ltd (CHS) has a customer focused approach to help their clients to choose the product that best fits their life style and budget while attaining a rapid payback period. CHS are the main agents for award winning manufactures namely Atmos, Central, Topling, Kombi, Senko, Sunex and Alfa. With this wide range they can offer every client, from small domestic to large industrial, a boiler that meets their requirements ranging from 6 kW up to 2 MW using log wood, pellet, chip and sawdust.

Their wood gasification boiler uses a combustion process which shatters virtually every preconceived notion about emissions and efficiencies of wood heating. The boilers have efficiencies of 85% upwards to 97% with extremely low emission per kilowatt of heat delivered. Their range also include attractive room heater pellets stoves, solid fuel range cookers, wood fired pizza ovens for cooking and heating right up to self contained units which can be located outside

The newest addition to their product range is a domestic hot water heat pump tank that can operate day and night with no panels or unsightly units mounted on the external of the buildings. These neat pieces of equipment have an efficiency of 360% and can be integrated into your existing system giving you true independence and hot water 24/7/365. If you manage to use a 100 litres every day, the running cost is only \leq 80 per year, use less it cost less. CHS's latest project was heating an acre of glass house requiring temperatures between 18-22degC using wood only.

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> Dealers for; BerCon Log Splitters, FTG **Baltic Trailers and** Cranes.

PRODUCT NEWS

WOOD-MIZER DEMOS NEW PRODUCT LINES TO SCOTTISH MILLERS



he most recent innovations from global sawmill manufacturer Wood-Mizer were on display at a recent event held in Linlithgow, Scotland.

Attendees ranged from wood-working hobbyists to those in charge of some of the UK's largest sawmills who were keen to see the breadth of technology on offer. UK general manager David Biggs said the company's largest mill on display – the WM1000 – drew a large crowd because of its scale, but added that it was some of the smaller machines which generated more enquiries.

He said: "The WM1000 saws large softwood, hardwood and tropical logs up to 1.7 metres in diameter so it is a very capable machine for our industrial-scale customers. But a lot of the people who came

along were interested in the smaller mills and new products we were demonstrating. For some it was the first time they have seen these products in the UK."

One of the more eye-catching additions was the four-sided planer/moulder. "The MP360 is a high-production, large capacity machine engineered for professional workshops," Mr Biggs said. "With a larger capacity and higher hourly production levels than the MP260 model, it can plane and mould boards on all four sides in a single pass."

Firewood processors from Jas P Wilson and a 400hp Musmax whole tree PTO chipper from Pentland Biomass were also on show at the site.

The next key event where millers can see working demonstrations of Wood-Mizer's product line is at APF 2018 at Ragley Hall from 20-22 September. "Nearly everything we will have on the stand will be new to the UK this year and will be a great opportunity for all businesses and individuals to see up close what these machines are capable of," said Mr Biggs.

The LT70 wide head with a two-inch blade is expected to generate a lot of interest. It is capable of cutting logs up to one metre in diameter. The incredibly versatile LT15 sawmill is also one which will appeal to a variety of users. The LT15 cuts logs up to 70cm in diameter and 5.4m long with the standard bed options, but extensions can be added to extend the sawmill bed to any required cutting length.

It will also be the first time the full range of Wood-Mizer products from the acquisition of the MOReTENS range has been on show. Planers, table saws, spindle moulders and CNC routers will be set up for attendees.

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PRODUCT NEWS SMALL DEHUMIDIFICATION DRY KILN SYSTEMS NYLE 1 200



he L200 is a compact, high performance dry kiln system. It will dry up to 4000 board feet of 4/4 green oak in approximately 4-5 weeks. It will dry up to 2500 board feet of green softwood in about 1-2 weeks.

L200 units include auxiliary heating, two ¹/₄ hp circulating fans, prewired electric panel, over-temperature vents and operating manual. That's everything you need to get started except for the chamber itself and we will provide the plans for the chamber.

The operating temperature range for the L53 and L200 is between for thous 70°F and 120°F (21°C - 49°C) during the drying process. You can set pitch or sterilize with the included auxiliary heater. Additional fans and a power vent system are also available. For fur

There are three control systems available with the L200

L200 standard control system. The traditional L200 has a precise controller which requires just a few minutes of daily monitoring. Controls include a thermostat with remote sensor and compressor timer. This system has been proven in thousands of installations since 1984.

The temperature control turns the supplemental heat on and off as needed. It displays both the set point and the actual kiln temperature.

The humidity is managed by controlling what percentage of each hour the compressor runs. If the humidity needs to be lowered the compressor operating percentage is increased. This is a simple reliable, time tested system.

L200 M temperature and wet bulb with wood moisture probes. The temperature is controlled just as above but humidity is controlled by a wet bulb thermometer instead of a humidity sensor.

Wet bulb is the most accurate way to measure humidity. In addition this controller provides 4 digital readouts of wood moisture content.

The system can be set to shut down when all four probes read the target moisture content. This system provides a level of control for thousand less than the cost just a few years ago.

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UK manufacturer, Dakin-Flathers Ltd, celebrates success with a new generation of sawmill blade - Ripper³⁷.

rom purpose built 24-hour facilities in Yorkshire, England, Dakin-Flathers have combined their 125 years of saw manufacturing experience and developed a premium sawmill blade which lasts 37% longer than the competition. Ripper³⁷ is crafted from high quality, carbon–rich Western European steel, developed with unique metallurgical properties to deliver the their life-end. We use Ripper³⁷ blades on our two static sawmills optimum balance between strength and flexibility.

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- Minimal waste and maximum cutting power
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- Improved quality of finish on the sawn timber



Sawyer, Jim Birley, of Scottish Wood in Fife says;

'They have given us a consistent and good all round cutting performance, and will last many re-sharpening's before reaching on which we cut Scottish grown hardwood logs...'

Thanks to their focus on quality and performance, Dakin-Flathers has grown from being the leading supplier in the UK to one of the leading suppliers in the world, exporting Ripper³⁷ sawmill blades to over 100 countries worldwide with an unrivalled reputation for quality and performance.

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WORRELL HARVESTING LEADING THE WAY IN WOOD BIOMASS

Forestry & Energy Review visit Worrell Harvesting on site near Tullamore to witness new developments in this fast expanding enterprise.



orrell Harvesting started in 1992 and their first machine was a Brunett 678. Prior to that they operated two teams of men, one in the east of Ireland, the other in the west of Ireland, each having approx. fifteen men in number harvesting softwood forestry plantations for sawmills with chainsaws.

Worrell Harvesting consists of three brothers, Kenneth, Colin & Neil Worrell.

After six months they bought their first harvester, a Norcar 490 with a Silvatec harvesting head. The brothers moved into haulage in 1998, and by 2003 had 10 trucks. The product hauled is generally their own logs and biomass. In recent times they have moved into the market for woodchip/biomass for energy. Increasingly this is harvesting timber that they have bought themselves. Worrell Harvesting have taken delivery of two new trucks from Sweden (Scania 580 V8), and two Legras walking floor trailers which were manufactured in France.

Worrell Harvesting have been involved in biomass over the last 10 years and the treatment of brash has changed considerably in that time.

Over the past seven years we have adapted harvesting methods to suit various sites to get the maximum return for the grower. We have found that not one method fits all. Our climate is so wet that the brash can rot instead of losing moisture if not harvested and stacked correctly.

TULLAMORE SITE SET-UP:

We conducted our meeting on a site outside Tullamore. It is a site of seven hectares which is managed by Donal Whelan on behalf of IForUT. It is a spruce plantation that harvested out with an average tree size of .9.

John Ryan of Murray Timber Group (MTG) bought the log down to 14cm and Worrell Harvesting took everything after that incl. pulp and brash. It is charged per tonne as it leaves the site using a text and docket system for every load which is moved.

The yield from this site is approx. 400 tonnes of logs per hectare. The chipped yield is approx. 200 tonnes per hectare to include 40 tonnes of pulp.

METHOD OF WORKING

They have devised a method of harvesting such that they do not drive on the brash and harvest the tree in a different direction. The logs are taken to the roadside in the normal way.

BRASH

The brash is left in heaps around the site so they will lose their needles (similar to cocks of hay) for a period of 6-12 months.

The length of time is dependent on season of harvesting and weather conditions. It is time to collect brash when the needles have fallen off. The branches are extracted with a specially adapted forwarder. It is then piled on the side of the road for 2-3 months before chipping.

Site after all the brash is recovered and harvesting & extracting is completed



BENEFITS OF THIS METHOD

- a. The site is left clean and tidy, ready to plant with no windrowing required.
- b. The needles are spread all over the site for nutrient value and not limited to windrows.
- c. The maintenance and establishment is a lot easier as ground is clean.
- d. The grower is getting a return on branches.
- e. It allows for a full stocking of trees for the next crop with a higher value tree (no heavy branched trees beside the windrows).
- It is easier to thin the next crop and also reduces the risk of windblow.



- 2 Ponsse Scorpions
- 3 Timberjacks
- 7 Forwarders
- 2 more Forwarders on order

NEW CHIPPER

American CBI 484 800 hp high output, mounted on a Volvo Truck with a Kesla Crane.

It normally takes 4 trailers to haul product from it, depending on the distance. (The company can produce an output of 70-100,000 Tonnes of woodchip per annum with the 2 machines).

Chipper 2 (4 yrs old)

Komptech 5010, 480 hp mounted on a MANTruck with an Epsilon Crane.

TIMBER PURCHASE

The company is purchasing timber from private growers whether this be of thinnings or clearfell.

We also purchase timber roadside. Cleared timber for windfarms, removed trees for motorway maintenance, clearing trees for roadway construction etc. (eg Presently working in clearing Cloosh Valley after fire).

"New methods of harvesting can massively increase the return from stands of timber & reduce reforestation costs"

THINNING METHOD

A similar approach is adopted for thinning:

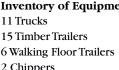
- 1. The trees are cut for sawlogs down to 14cms. Once diameter goes below this pulp and branches are chipped.
- 2. The site is left clean and all small, dead and unproductive trees are removed.
- 3. Brash is left to one side so that it can be collected and put down in soft areas of the site where the forwarder has to travel a lot, usually the main extraction lines, which in turn helps to reduce rutting. The rest of the brash is brought to roadside and chipped.

RESULTS

The grower is getting more for his timber and our harvesting method is reducing the chance of windblow. This type of thinning allows for a better forest practice. The poor performing trees are removed and the end value can be 50-100% more volume than traditional returns. A reputable forestry company recently carried out a survey on four sites and the results can be found in the table below.

Inventory of Equipment

11 Trucks 15 Timber Trailers



Site	Restriction Category	Silvicultural Prescription	Estimated Cut- to-length M3	Actual M3 achieved	Extra Volume Recovered	% increase over cut-to-length
1	Very high	1 in 7 rack and selection, JL dominant and poor remove all	445	659	215	48
2	Moderate	1 in 7 rack and selection. Site was a late first thinning where the average thin tree was large. This contributed to the large amount of biomass extracted.	512	1233	811	159
3	Moderate	1 in 7 rack and selection. SP poor with very large biomass content. Extremely good recovery of biomass.	669	1658	989	148
4	Low	1 in 7 rack and selection, JL dominant and poor remove all. Remove suppressed NS	1729	2963*	1234*	71

*Project not completed. These figures are estimates. Table: Results from Integrated Harvesting trial sites

"Source - Simwood Project



HARDWOODS

The company also purchases hardwood where the stem is used for firewood and tops of trees go for biomass use.

MARKET OUTLOOK

Kenneth says the market at present is under-developed. All the forestry industry can do is push product to the market and trust that the RHI incentives will generate a good market for Biomass. If this is not done the product will end up being exported. As it is they already have enquiries from England, Sweden and Denmark for Biomass.

For further information go to Worrell Harvesting at 045 529574 www.worrellharvesting.ie and check us out on YouTube.



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Established in Portarlington, Ireland in 2004, Robinson Distribution Ltd. has continuously expanded and developed into a market leading trailer and crane manufacturer, supplying an ever growing customer base in the transport and forestry sector across Ireland, the UK and mainland Europe.



BACKGROUND

Robinson is an ambitious family owned and managed business with a long and proud history of transport, agri-products and forest machinery. Throughout its history, Robinson's has been an innovative company with continuous research and development being at the core of the business. Our track record of trailer and crane design and manufacture provides us with a strong competitive advantage in terms of new product development. All our trailers and cranes are designed and customised by our team of experienced engineers. Each product is manufactured to meet the specific needs of the operator which is backed up by our strict quality procedures. Our attention to detail enables us to build a product that will simply outlast others with superior strength and durability.

Our success has been built on an ethos of serving our customers with quality transport solutions, efficiency, and reliability and also by ensuring there is a complete focus on customer satisfaction at the core of everything we do.

FACILITIES & COMPETENCIES

With ongoing investment, research and development; the company has continuously developed a modern manufacturing facility designed to manage the expectations of today's transport sector.

Our state of the art production plant is one of the most modern trailer manufacturing facilities in Ireland.

As a business we continuously innovate by applying cutting edge design aligned to the specific and changing requirements of each trailer's function with the aim of saving fuel, maximising payloads, increasing manoeuvrability and flexibility, improving safety whilst ensuring we comply with all legal regulations Our focus is on building the highest quality trailers to the highest manufacturing standards. We achieve this through a combination of: Engineering & Design Excellence, Advanced Technology, A Wealth of Experience

OUR CUSTOMER MISSION

The company now boasts an ever increasing customer base across Ireland, the UK and Europe. Our goal is to support our customers in their goal of purchasing trailers and equipment that will provide a strong return on investment and augment the success of their business.

TRAILERS & CRANES

Robinson manufactures a wide range of trailers and cranes, all designed to meet the specific needs of our customers, with specifications across three main categories including;

On Road Trailers: Bulk Tipper Trailers, Platform Trailers, Container Trailers

Timber Trailers: Centre Axle Drawbar Trailers, Semi-Trailers, Super Structures, Turntable Trailers

Cranes: The company also supplies, custom manufactures and fits cranes, including brands such as Robinson, Loglift, Kesla, Liv.

Our new timber cranes are now operating out in the Irish forestry industry with very positive feedback from our customers. We manufacture two models of crane to choose from, a 9 tonne and a 12 tonne. These both come in a single and double extension model. Our cranes have the highest quality finish with investments in our own forms for castings in Scandinavia, Swedish Steel, Parker Hydraulics, Indexator Rotators and Links, Tamtron and Maxi Cap Weighting Systems and high power LED working lights. The high standard of finish extends to the main components as they are blasted, primed and painted which presents a huge advantage over competing products. Robinson also supply their own grapple with its crane. This is a Robinson 42 Grapple which has a gripping area of $0.42m^2$. Robinson's also manufacture their own Robinson One Piece Timber

"Our state of the art production plant is one of the most modern trailer manufacturing facilities in Ireland"



Bunk. These are made of specialised Swedish Steel. Due to the weight and price of the Robinson Bunks, they can now compete aggressively in the market place, making them very popular with customers.

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THE EU TIMBER REGULATION (EUTR)

The EU Timber Regulation, or EUTR as it is also known, is an important tool in the fight against illegal logging. Noel O'Connor (DAFM) discusses.



llegal logging is a global problem with damaging consequences economically, environmentally and socially. Deforestation, climate change, land conflicts and corruption are among its associated impacts.

The EU Timber Regulation has been in force since March 2013 and is implemented across all EU member states. The Department of Agriculture, Food and the Marine plays an important role in tackling global illegal logging through its application of the Regulation (given effect in Ireland by Statutory Instrument No. 316 of 2014).

SO WHAT IS THE EUTR ALL ABOUT AND WHO DOES IT APPLY TO IN IRELAND?

The EUTR is concerned with ensuring that only legal timber and timber products are placed on the EU market. Operators in Ireland who place timber or timber products on the market for the first time (whether from domestic or international sources) are required to comply with the Regulation. Traders who sell or buy timber or timber

Particularly noteworthy is the requirement that Operators must make use of a robust Due Diligence System to ensure that the timber product is legal based on the laws of the country of harvest. It is an offence for Operators to fail to make use of such a Due Diligence System. In addition, placing timber that is not legal on the EU market is prohibited. Authorised Officers of the Department of Agriculture, Food and the Marine carry out EUTR-compliance checks on Operators and Traders in Ireland.

If your business is involved in importing or first placing product on the Irish market which contains a timber element/component then it is likely that the EUTR and its Due Diligence requirements apply to you.

Operators and Traders have obligations to undertake in order to be EUTR compliant and to avoid the sanctions which are provided for under Statutory Instrument No 316 of 2014.

Further information is available from EUTR@agriculture.gov.ie and from the websites of the Department of Agriculture, Food

"If your business is involved in importing or first placing product on the Irish market which contains a timber element/component then it is likely that the EUTR and its Due Diligence requirements apply to you"

products commercially within the EU are also subject to some EUTR requirements.

The EUTimber Regulation places the obligation of ensuring product legality on EUTR Operators. Operators are individuals or entities who are first placers of timber and timber products on the Irish or EU market. Companies and individuals who import such products from outside the EU into Ireland for commercial purposes have specific obligations in relation to due diligence and placing of products on the market.

The product range covered by the EUTR is extensive and covers almost all timber and timber products. There are a small number of exceptions including recycled products and printed papers.

Examples of products to which the Regulation applies include: furniture, flooring, pulp and paper, sawn wood, wood in the rough, fuel wood, particle board, veneers, plywood, builders' joinery, and soft furnishings which contain timber such as wooden frames etc.

and the Marine and the European Commission. http://www.agriculture.gov.ie/forestservice/eutrflegt/ http://ec.europa.eu/environment/forests/timber_regulation.htm http://www.irishstatutebook.ie



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