



A Sawmillers Practical Approach to Timber in Ground Contact

WMF Timber in Ground Contact Seminar

Farmleigh House, Dublin

3 September 2015

- Introduction to Balcas
- Machine round agricultural post history
- Current challenges
- Practical approach to achieving compliance – Results
- Future opportunities & market developments

Introduction: What does Balcas do?

- Maximise the value from the forests of Ireland.
 - Sustainable crop
 - Completely renewable
- Our forests yield fantastic products:
 - Timber has remained the primary construction material for thousands of years
 - Timber has been the worlds primary fuel
- Balcas has been an innovator and leader in the softwood products sector for over 50 years

About Balcas

- Turnover approaching £100m
- 380+ people employed across 3 sites.
- 300 additional people employed indirectly.
 - Highly skilled and well paid jobs in rural communities
 - Working with schools & colleges to offer Apprenticeship and Graduate Programmes
 - Committed to investing in people
- Our activities contribute more than 300,000T of carbon reduction annually



What does Balcas produce?

- Sawn Timber
 - Kiln Dried C16 construction timber
 - 2 million machine round posts
 - Square sawn fencing
 - Pallet & packaging
- Renewable electricity – Over 90,000 MWh pa
- Wood pellets for heat – sold under brand name *brites* – 1 Million tonnes to date displacing a half Billion litres of oil
- Heat for Balcas' timber drying kilns
- Produced in Kildare, KOTA is the latest innovation in MDF mouldings

Raw material purchases

- c.800,000 tonnes logs per year

(110 trucks a day)

- Enniskillen and Invergordon



Volumes

- In volume terms, about half of each log becomes timber and half becomes energy



- History
- What is out there in terms of supply?
 - Species Mix
 - Spruce Properties
- What does the customer want?
- Practical Approach Taken
 - Pre conditioning and incising
- Future opportunities.

“The wheel is come full circle” – King Lear

- Did this all before
 - Fences still standing
 - Market did not demand product to specification
 - No market differentiation

PERMAPOST

ROUND and SOUND in the GROUND

PERMAPOST PLUM TIMBERS feature post protection on 3 of the sides!

PERMAPOST TREE SUPPORTS are a low-maintenance fence gate post & tree maintenance solution.

PERMAPOST poles & posts are: The post and pole feature a finish or treatment with a class of wood or steel post treatment grade. There is no need for wood 'PERMAPOST' Treatment.

MAGNIFICENT: These green poles, posts & timbers are ready to use.

PROTECTS: The easy-to-use PERMAPOST TREATED TIMBER is made from a special chemical solution which is applied to the wood.

CHOOSE: The perfect choice of timber for your project.

STABILITY: The special treatment of PERMAPOST makes it resistant to rot, decay, insect attack and fungal growth.

EASY TO USE: PERMAPOST is easy to use, install and maintain.

ADAPTABILITY: PERMAPOST is available in a range of sizes, lengths and grades.

PERMAPOST is available in a range of sizes, lengths and grades.

Ballycassidy
PERMAPOST
Available from your local stockist

Local Stockist

Tanalised Timber

PERMAPOST TIMBER, POSTS & POLES

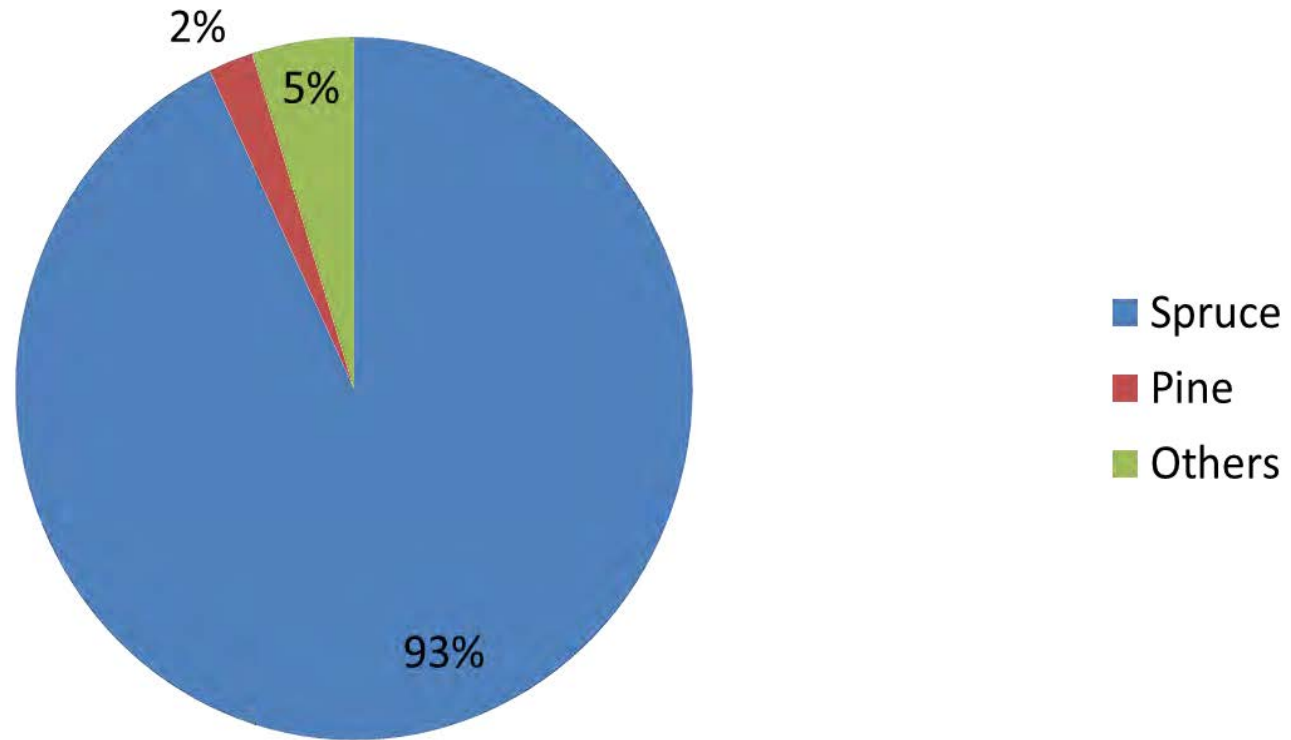
SIZE	PERMAPOST (mm)	PERMAPOST (ft)
PERMAPOST (mm)	120 x 120 x 3000	4 x 4 x 10
PERMAPOST (mm)	150 x 150 x 3000	5 x 5 x 10
PERMAPOST (mm)	180 x 180 x 3000	6 x 6 x 10
PERMAPOST (mm)	210 x 210 x 3000	7 x 7 x 10
PERMAPOST (mm)	240 x 240 x 3000	8 x 8 x 10
PERMAPOST (mm)	270 x 270 x 3000	9 x 9 x 10
PERMAPOST (mm)	300 x 300 x 3000	10 x 10 x 10

Available from your local stockist

Sole Manufacturer:
Ballycassidy Sawmills Ltd
Enniskillen, Co Fermanagh
Tel: Enniskillen (0286) 3050

- The old CCA chemicals were so toxic and effective they were forgiving of wood preparation
- New generation copper organic preservatives are tested in independent field trials
- Benchmarked against traditional CCA
- Irish standards require that UC4 retentions are derived from 10 years field test data
- Latest preservatives very effective at the correct timber loadings

Hectares Planted ROI



Spruce properties



**Sapwood – natural
durability <5years
Permeability – moderately
resistant**

**Heartwood – natural
durability 5-10 years
Permeability - resistant**

- Can't tell heartwood/sapwood
 - Not even with a microscope
 - Different properties
- Challenge
 - Assume its sapwood
 - There is heartwood which is extremely hard to penetrate
 - That's where incising comes in

Customer requirements

- Post that is fit for purpose
- Assurance that full post will perform not just the sapwood portion



- Confidence in long term performance of in ground contact timber
- We need spruce to perform in ground contact
- Thankfully there are techniques to create an excellent finished product

Practical Approach Taken

- Meeting standards - IS436 IS435 BS8417
- There is a disconnect between the standard & what the customer wants.
- Post supplier has to comply with standards and meet the customer expectations
- We need to employ best practice
 - Wood preparation
 - Incising
 - Treatment

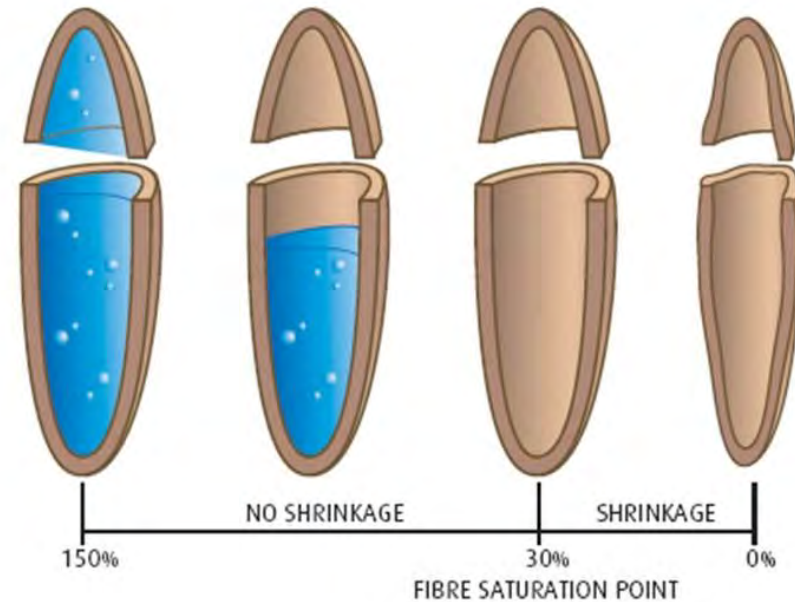
Techniques that the Sawmiller can employ

- Remove the free water
- Incision
- Best practices
 - NVQ Operator
 - Meticulous QC
 - Solutions Strength
 - Laboratory analysis

Independent confirmatory analysis of timber treatment to demonstrate safe relationship of practices

The technical challenges

- Pre-treatment conditions
 - Removing the free water to leave room to get the chemical in



- High intensity incising
 - 6mm/12mm depth depending on specification



Treatment Process

- Effective preservative treatment
 - Best products
 - Process Cycle
 - Solution strength
- Full process QC



The benefits of incising

- Engineered product that is fully compliant



Not Incised

Incised

Machine round posts – dried to fibre saturation point,
incised and treated with copper triazole

High quality incising



The benefits of incising

- Engineered product that is fully compliant – Motorway Fencing



Square spruce 150 x 75 – dried to fibre saturation point, incised and treated with copper triazole and meets the UC4 30 year requirements

Approach taken by Balcas

- Good treatment makes the best of our timber
- Careful adherence to best practice
- Get the chemical into the timber
- Resulting in a high performance product



Future opportunities – The Prize

- Gives the customer confidence that post is fully compliant with ground contact requirements
- Brings Home Grown timber consistently to a higher level of performance
- Demonstrated compliance in 15 & 30 year service life



- Have done many things over the years to get wood to market
 - Kiln Drying
 - Planing
 - Machine Strength Grading

This is not just another challenge but...
another opportunity to add value to Irish
Timber...and create an excellent product.

Thank you for your attention