

Choice of Planting Stock

Steve Lee
Forest Research



Introduction

- A review of why planting stock is important
- A run through the recommended planting stocks according to species



Conifer breeding has been around for 50 years.

- The process starts with selection of the most suitable seed source
- Then select good individuals within that seed source
- Then test selected trees for Breeding Value
- Then re-select the best and put them in a seed orchards.
- Then collect the improved seed or carrying out controlled pollinations.
- It takes time and money, but it is a worth while investment.



**It is important to
make the
right choice
of planting stock**

- It impacts on survival
- It impacts on growth rate - rotation length - volume
- It impacts on Stem Straightness - how many green logs you get
- It can impact on susceptibility to pests and diseases
- All these things impact on profitability

The right tree on the right site can be the difference between profit and loss

- We all know you don't put Alaskan origin SS out on a good quality site in Tayside
- The most suitable origin would be QCI with perhaps WSS for some of the west of Scotland.
- But can you do better still?



The Sitka spruce Breeding Programme is our most advanced Conifer Breeding Programme

- 84% of the SS planted in 2007/8 was improved stock
- Rooted cuttings have been available for around 15 years.
- Seed orchard material is now available on a regular basis.



If you are planting Sitka make sure it is improved stock

- It will grow faster
- It will be straighter
- It will give you more sawlogs
- It will be more profitable

Check out the Forest Research Website.

Click on: **Tree Improvement**

then **Breeding and Production**

then link to list of **SS improved stock**





We have been selecting for quality right from the start

Sawmill study of an early progeny trial

- 3 progenies from Plus Trees and the QCI control
- Trial was 37 years old.
- YC 22 (QCI) 24 (better progeny)
- More volume
- More sawlogs
- No drop in timber quality
- We can expect about 30% more Green Logs from current seed orchards
- About 60% more Green Logs from current veg prop stock



The most advanced planting stock is from Vegetative Propagation.

- It is ahead of orchards for quality traits such as straightness, branching quality and wood density;
- Latest material comes from Full-sibling families with just one mum and one dad;
- Crop more uniform
- Now available in the public and private sector.
- This is the stuff to plant if you really want to grow for quality in the future.



Family forestry -
stock planted over
the last 2 years.

Scots pine

Get your material from a Seed Orchard

- 70% of all SP sold by nurseries is collected in a Seed Orchard
- psyOR70TE
- psyOR71TE
- psyOR74TE



	<u>Diameter</u>	<u>Stem Str.</u>
Scots pine	8-12%	0-3%
Possible	14-20%	5-19%

Larch: source from an orchard or seed stand (more common).



The breeders aim is to create the hybrid between European and Japanese Larch.



	<u>Diameter</u>	<u>Stem Str.</u>
Hybrid Larch	8%	
<i>Family mixtures</i>	12-20%	10-20%

Douglas Fir

- Breeding programme has been stop/start
- Expect Bulletin later this year
- All IUFRO and other origin trials now analysed
- Washington Coast (WACO) - best is for most areas **Elma, Humptulips, Matlock, Twin Habor, Hoquim**
- South Washington Cascades - consider on warmer areas - **Packwood, Randle, Snoqualmie Falls, Enumclaw**
- North Washington Cascades is less optimal - **Darrington, Arlington, Granite Falls ***

* Courtesy CJA Samuel and AM Fletcher (in preparation)

- First choice for planting stock will be British seed stands
- After that imported material from seed orchards within WACO or SWCA
- Also EC seed stands within WACO and SWCA
- We shall NOT be starting our own breeding programme but shall access others*



Douglas Fir

* Courtesy CJA Samuel and AM Fletcher (in preparation)

Conclusion

- Improved material is available for SS, SP, Larch
- SS is the most advanced and there is a choice
- DF story has been slow to arrive.
- The right choice of planting stock is the first step to a successful crop.
- Make sure you ask your nursery informed questions.

