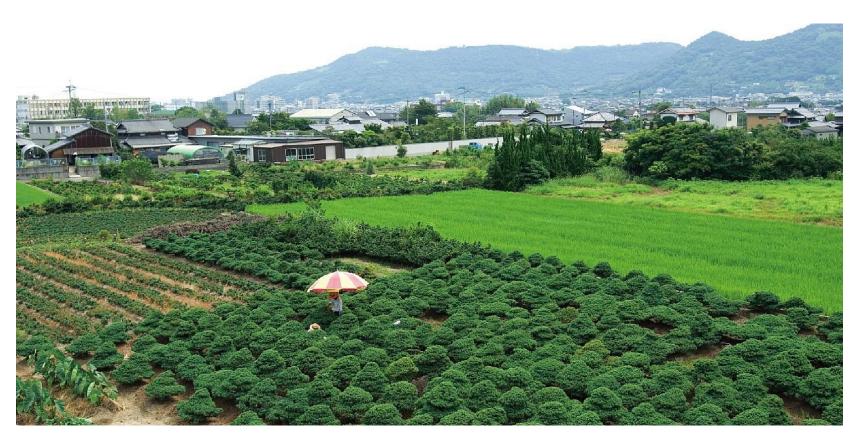
# Black Pine Development & Refinement



# KuroMatsu Development



## Takamatsu Field Development



## In the Field

- Field grow small stock.
- Open 'gravelly' soil mix.
- Use many 'sacrificial' branches.
- Lift frequently to develop good *nebari*.
- To encourage 'back-budding'. Don't 'needle-pluck' too heavily. Allow first flush to grow out; the following season cut this first flush.

There is no clear demarcation between development and refinement stages in bonsai. The lines are blurred.!

## Structural Development







Keep your trees in the ground too long and you could end up with something like this.!



# KuroMatsu Refinement



## FAQ's

• Why do you remove old needles?

When should you remove old needles?

What do you mean by "old needles"?

When do you cut first flush?

• When do you fertilise?... when do you stop?..... etc

# Dispelling the Myths Balanced growth

#### **Tree Vigour zones**

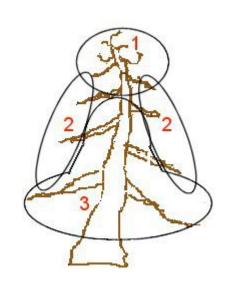
Tree Vigour zones – prune week first, med second, high last.

#### Diagram showing vigour areas of a Pine tree

Area 1 is the most vigorous.

Area 2 has medium vigour.

Area 3 is the least vigorous area.





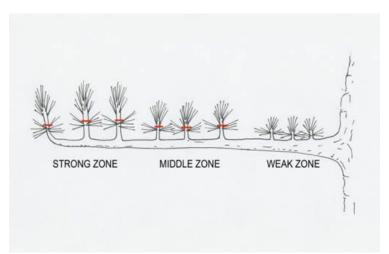
## Branch Vigour zones

#### Diagram showing vigour areas of a Pine branch

Area 1 is the most vigorous.

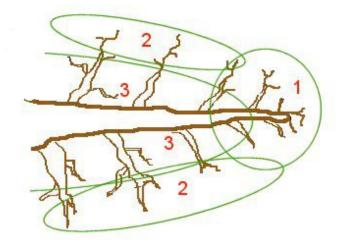
Area 2 is of medium vigour.

Area 3 has the least vigour.



If you have to progressively cut new growth, in an attempt to balance growth... then you simply did not complete the needle plucking and bud selection correctly last autumn!!!





**Simply**: Even needle plucking, in autumn/winter.

Thin needles so that there is an even distribution of needles over the entire tree.

This will signal the tree to send sap-flow **evenly** to all parts of the tree.

## Autumn/Winter



Thin old needles **evenly throughout the entire tree**. This will balance the vigour for next spring, allow more light & air through the tree, and help 'un-clutter' the branches for ease of wiring.



Bud selection is very important to remove 'bud clusters' to 2 smallest buds. This removes everything not required in the Spring 'first flush'.

The cooler months are an ideal time for this work.

- All cuts made will not 'bleed' as much.
- Bud selection will not result in more unwanted growth.
- Wiring & shaping is much easier after needle thinning & bud selection.
- Balanced vigour.
- Keep ahead of 3yr old needle shedding.
- Improves overall health.

Maintain a regular fertiliser programme throughout this time. This will help build strength for the Spring first flush.

## Autumn / Winter needle thinning, bud selection & wiring





All set for the next Spring flush. A clean, open design will reduce insect and fungal problems & allow for better adventitious budding events.



## Spring/Summer



Allow the Spring 'first flush' candles to elongate and open needle sheaths.

Always <u>cut</u> the first flush. Snapping off the first flush can damage the area of second flush.



Allow ALL second flush buds to grow and harden off over Summer.

Spring is the time to increase fertiliser to push out the first flush.

This increases the sap flow in the tree.

Allows the tree to bud well after the first flush is removed.

Don't be tempted to remove excess second flush buds. There will always be those with more vigour.. Leave them on to help stunt the growth you want to keep.... Smaller needles.

Remember to stop fertilising around the time you remove the first flush. Resume fertiliser programme after second flush has hardened off.



- Even, second flush Spring growth.
- Multiple budding from first flush cuts.
- Open design.

... all due to last season's bud selection, needle plucking, and Autumn/Winter fertilising.

## Second Flush Budding

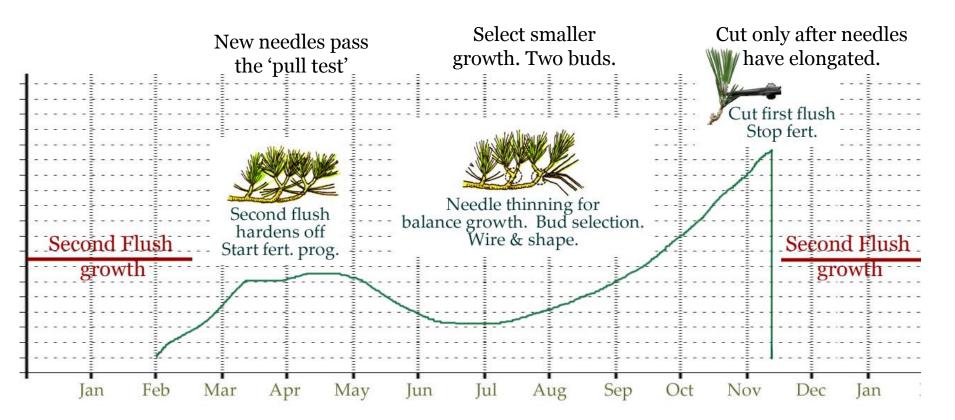


## **Bud Selection**

Bud select only after all second flush has matured.! This way the larger shoots will help stunt other bud growth. ie... **Smaller Needles** 



## KuroMatsu - Refinement Summary



Please note that these dates are 'nominal'. Actual dates will depend on climate, seasonal variations, etc...