



Tree Architecture and Training

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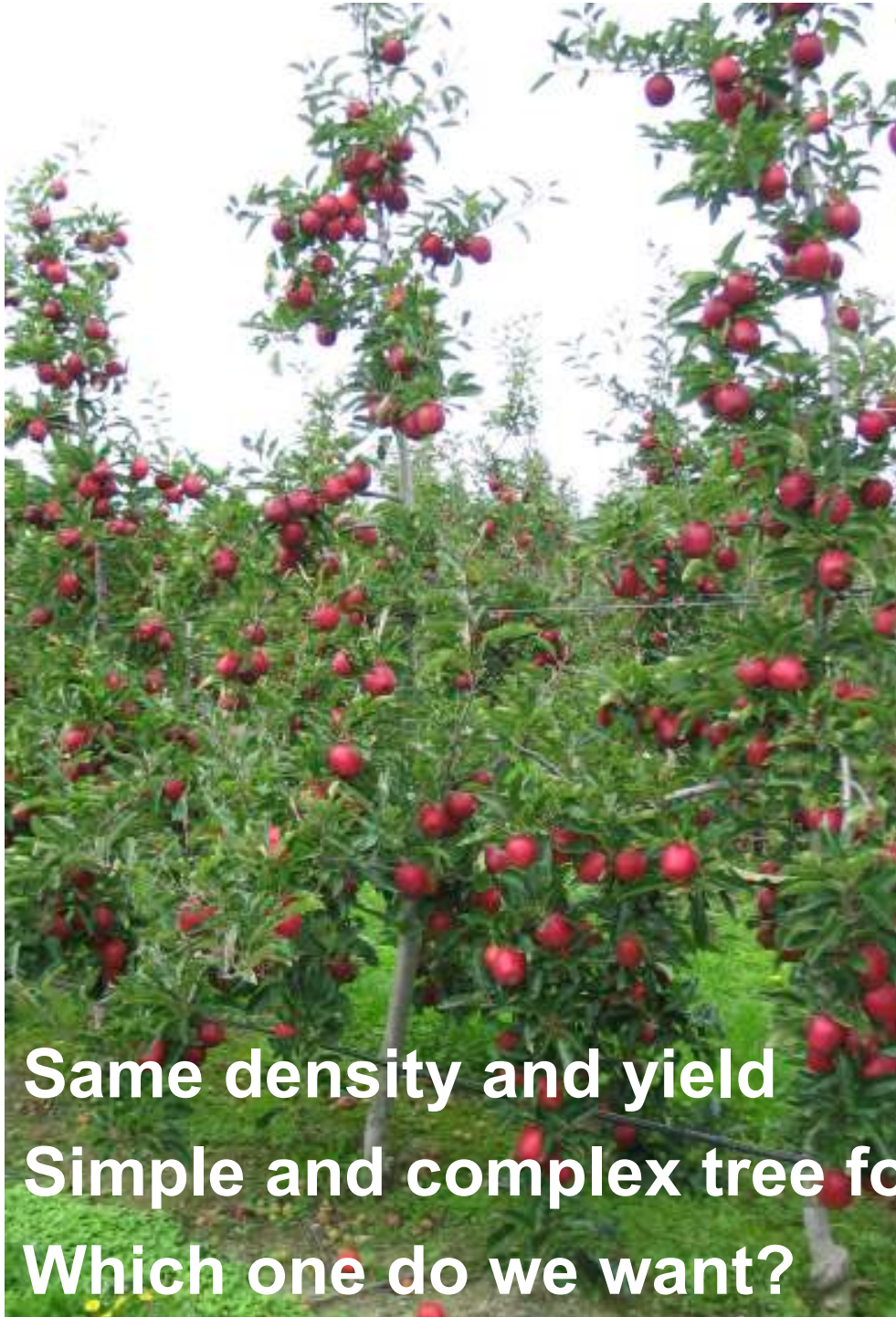
New Zealand

Objectives



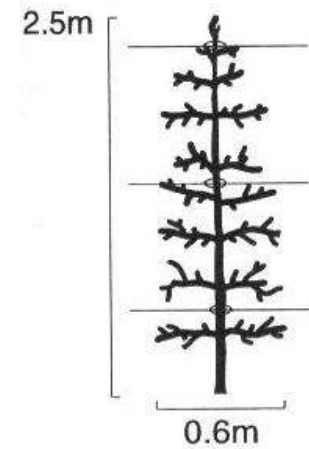
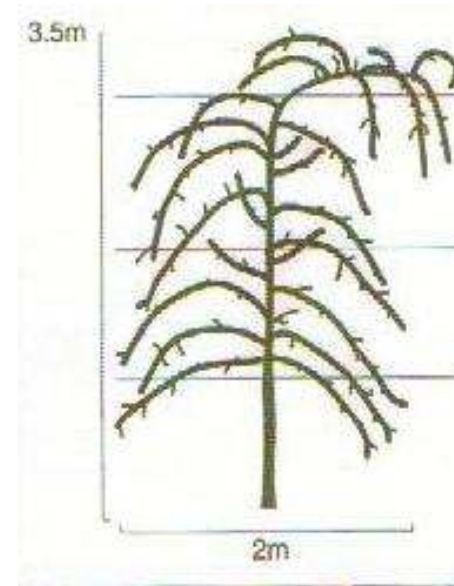
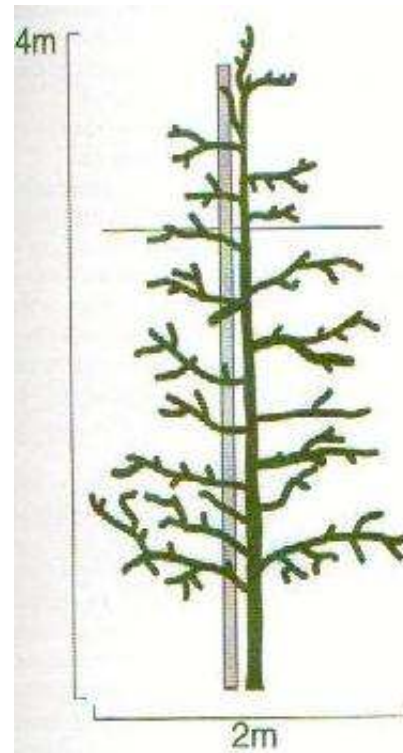
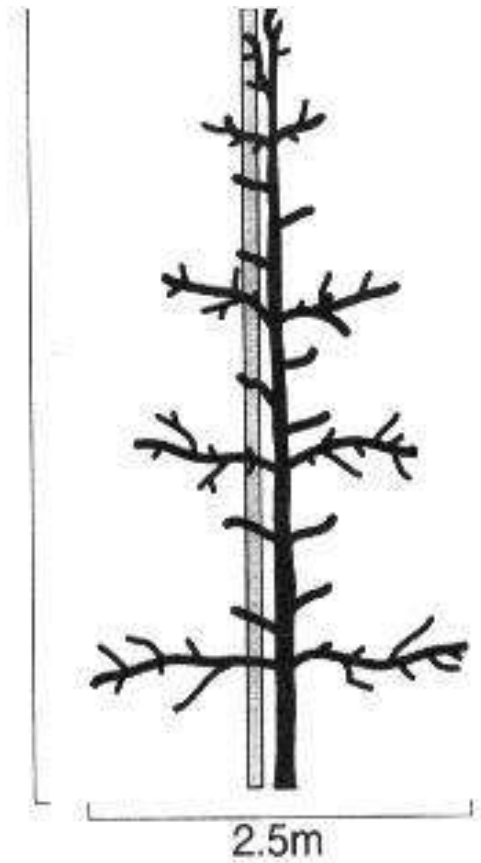
What are we trying to achieve?

- High and early yields
 - Cost efficiencies
 - Consistency
 - Quality fruit – What? (size, brix, colour, consistency)
-

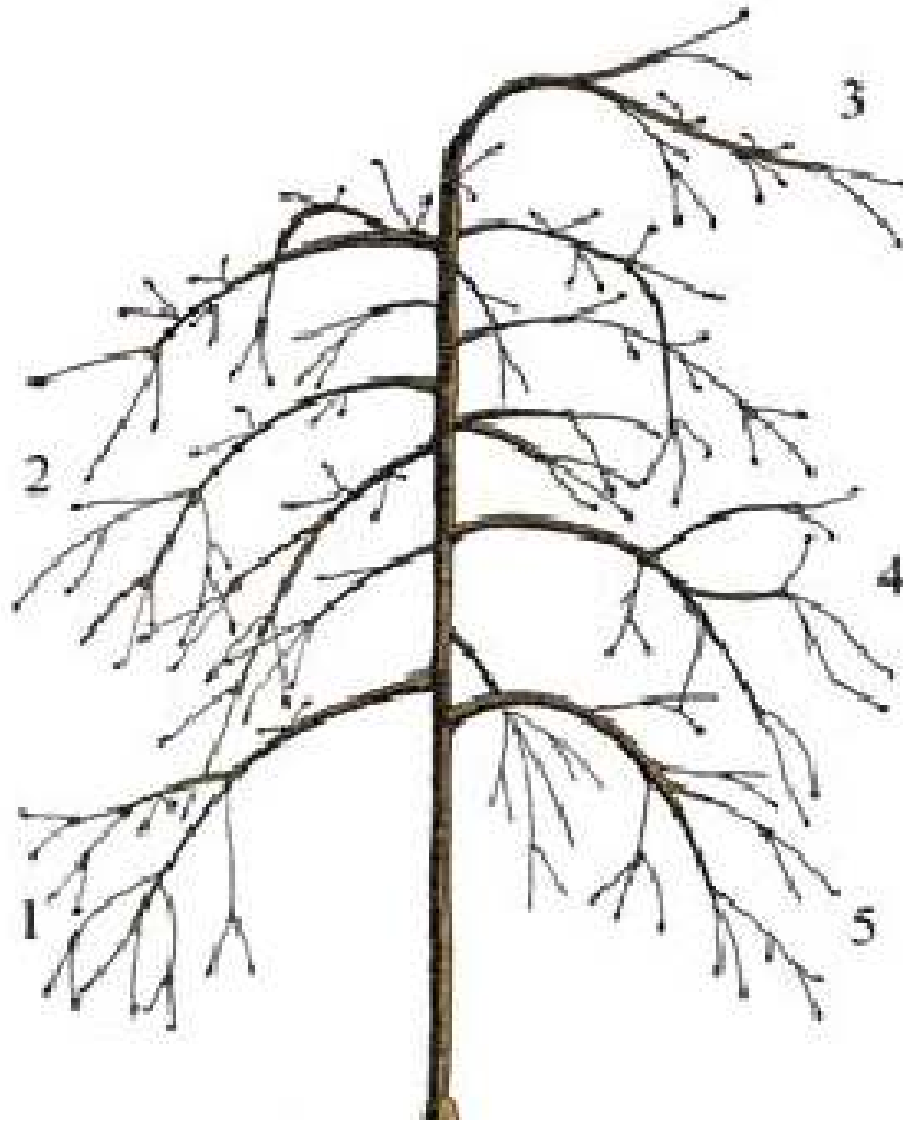


Same density and yield
Simple and complex tree forms
Which one do we want?

Visualise tree form



Example: Solaxe



- A wider spaced tree
- with simple rules
- to achieve simplicity and consistency



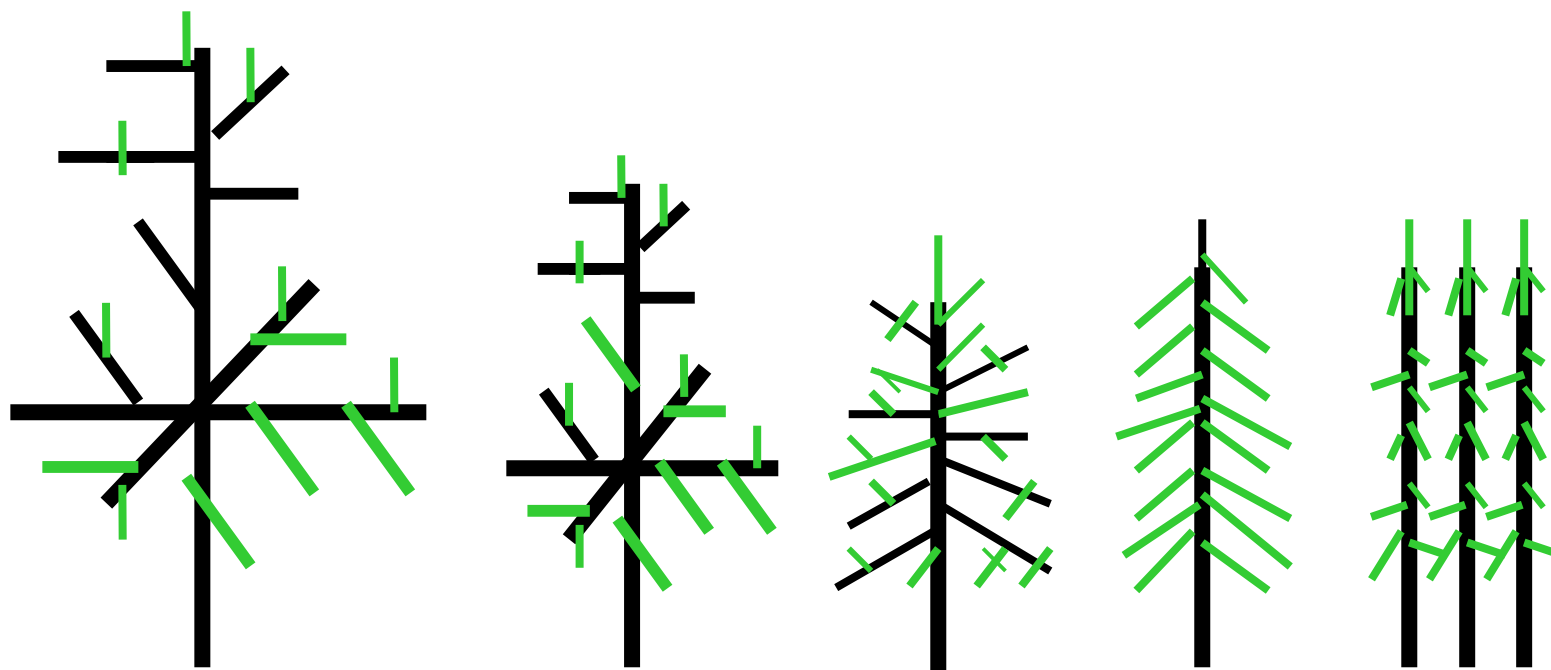
Example: Italian



- Higher density
- More training
- Simple fruit units



Which Tree Form?



Which Tree Form?



- Decide!
- Visualise it in detail!
- Deliver consistently





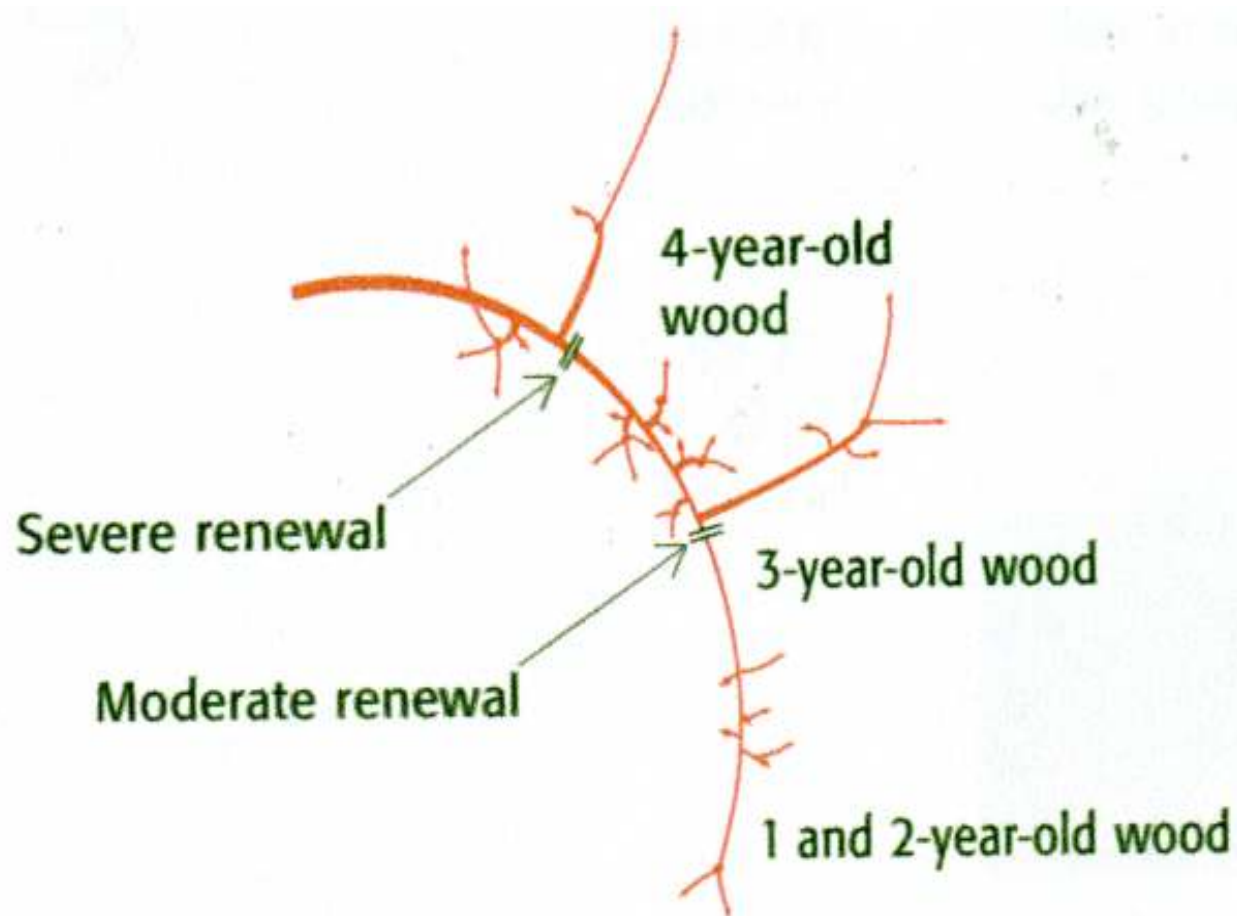
Principals

Understand the process.

- Pruning influences vigour and crop load

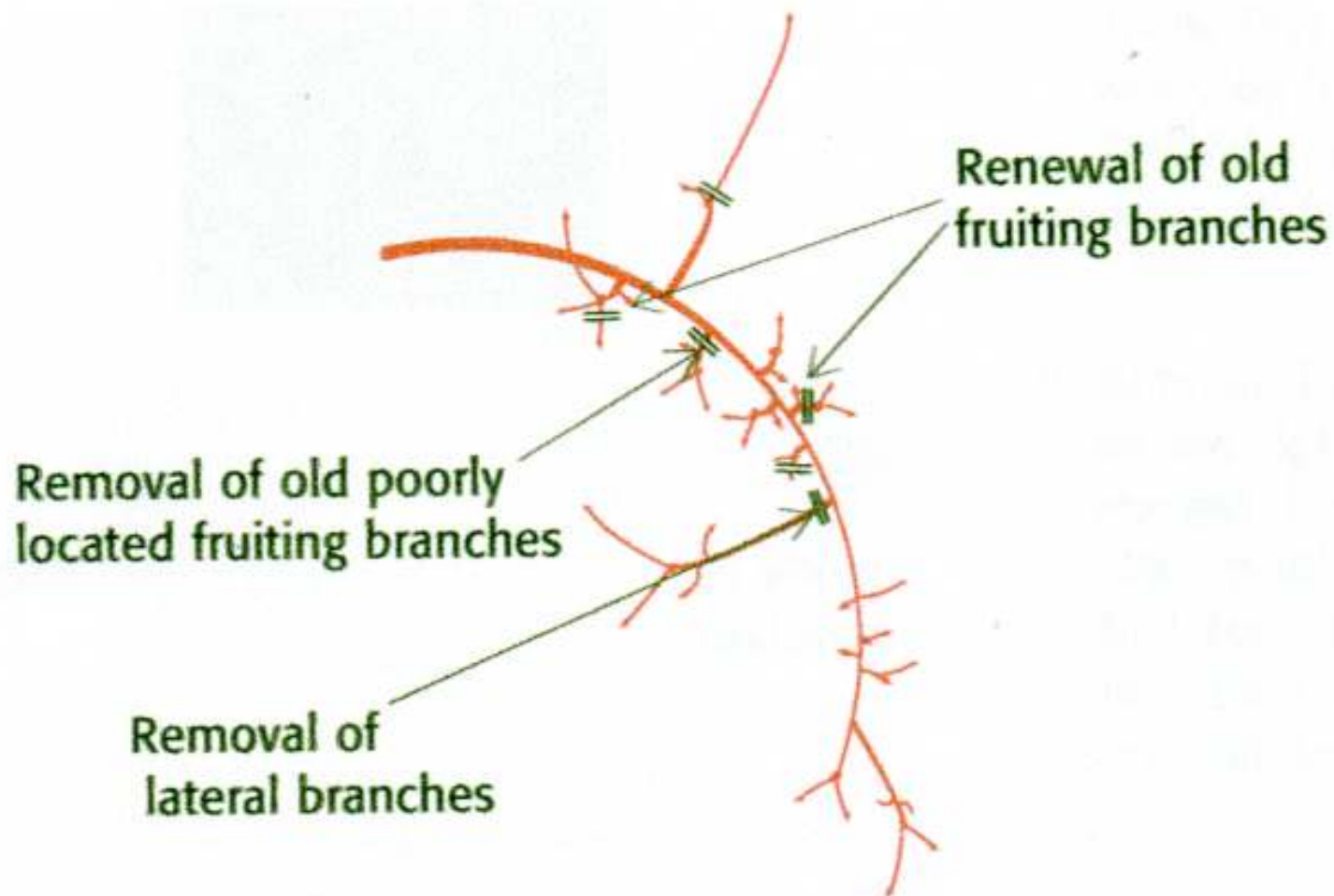


“Renewal pruning”

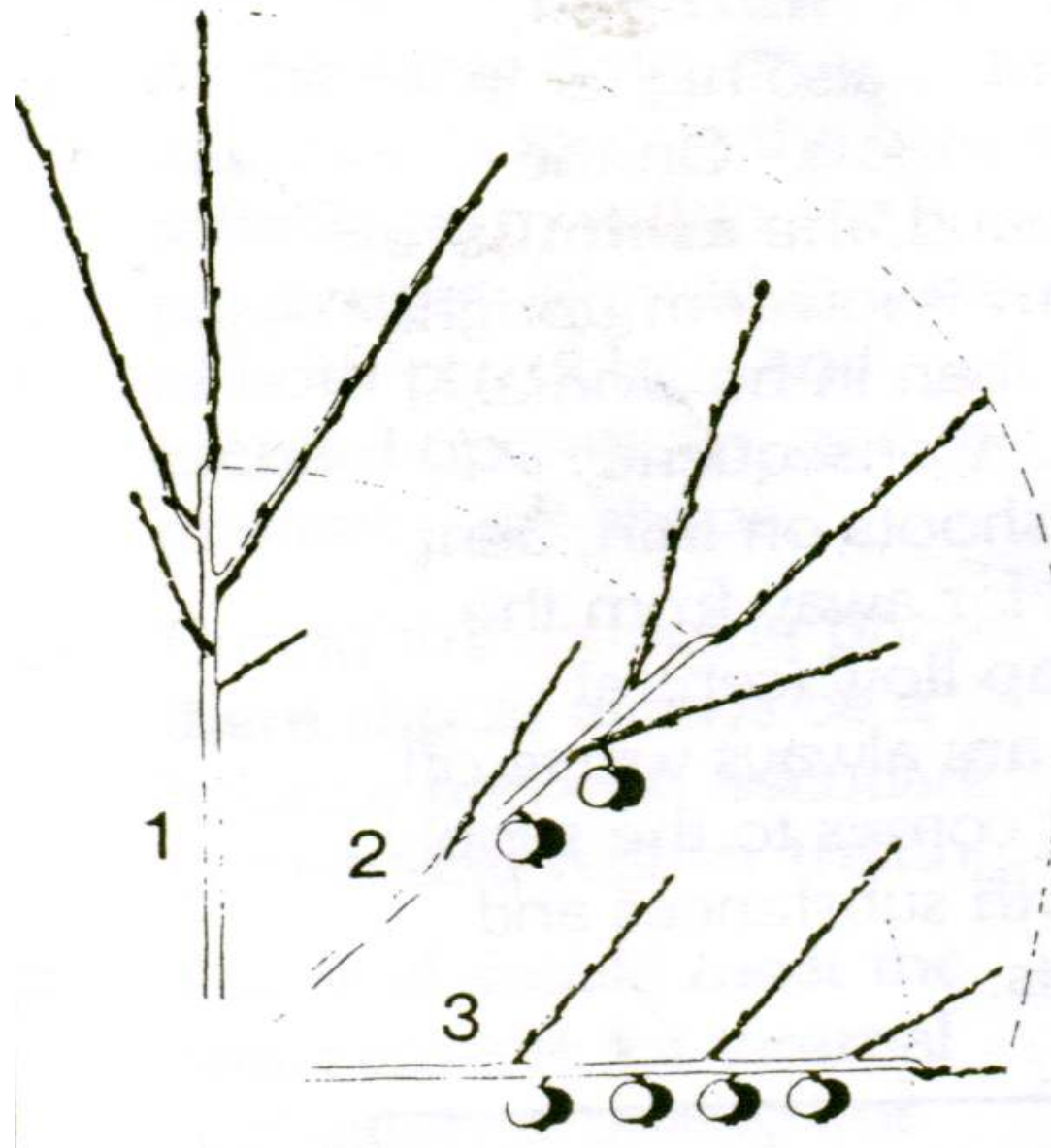


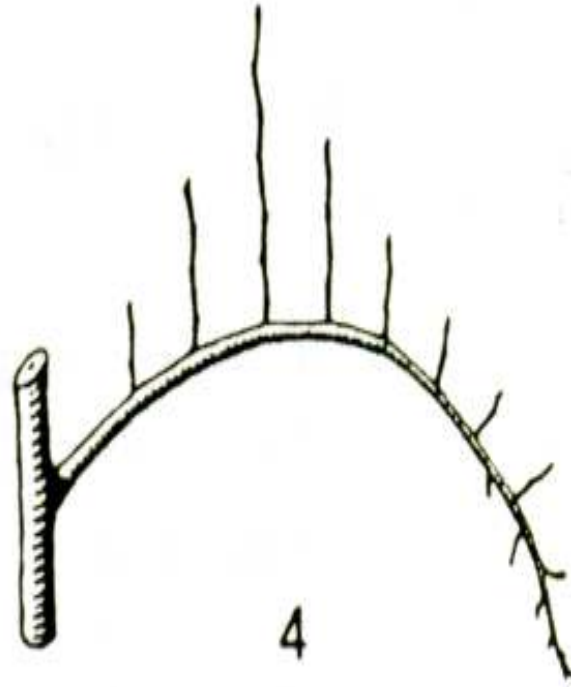
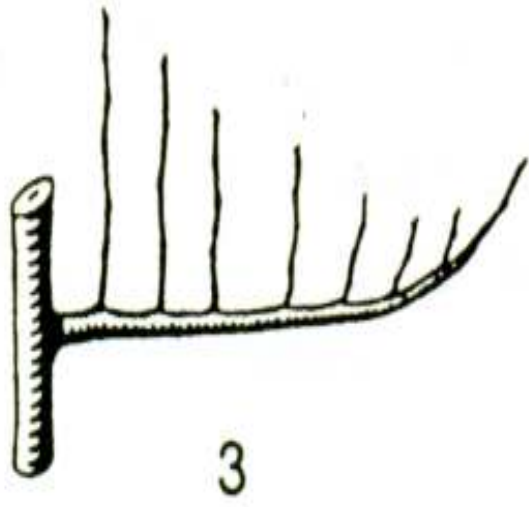


“Long pruning”









Fruiting branches



- Simple units
 - The same from top to bottom
 - Have simple math's
 - Ability for simple supervision
 - Consistent light leads to consistent quality
 - These branches are created by training and pruning
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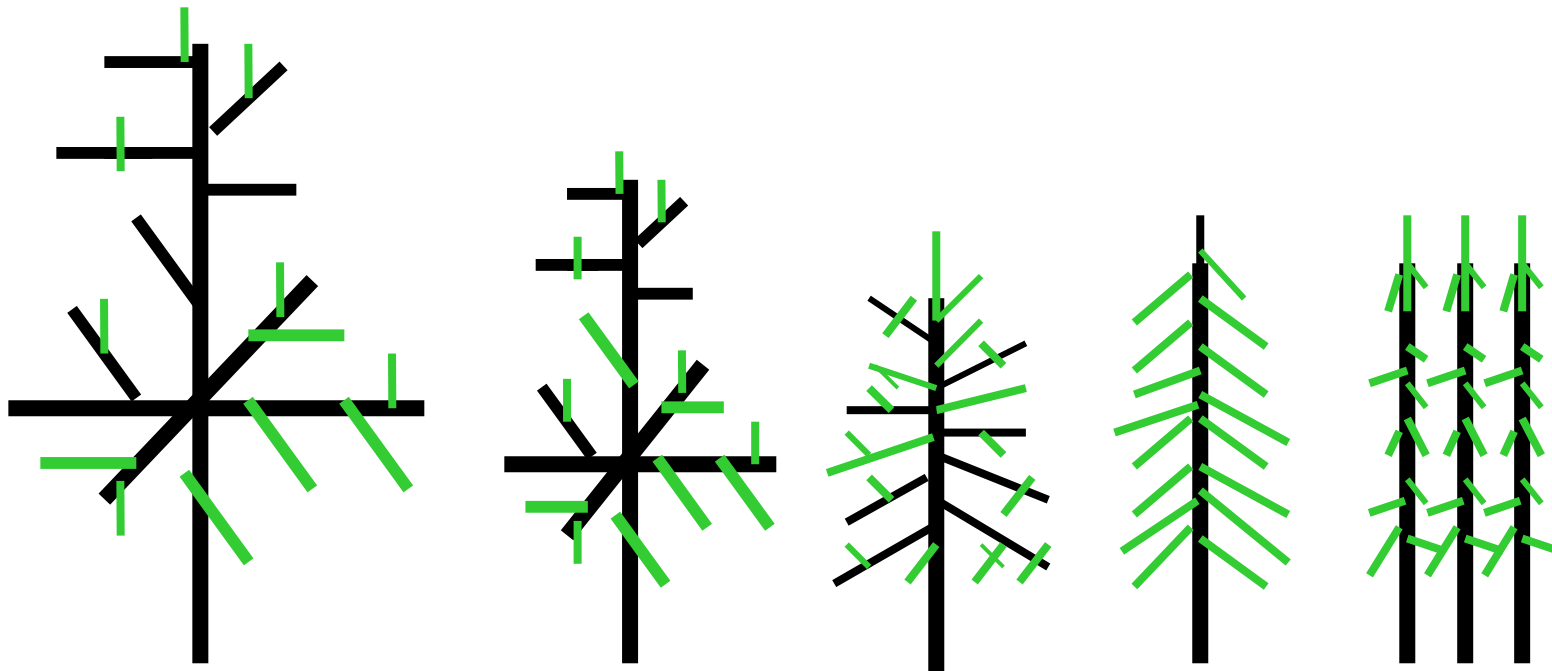


Creating a system

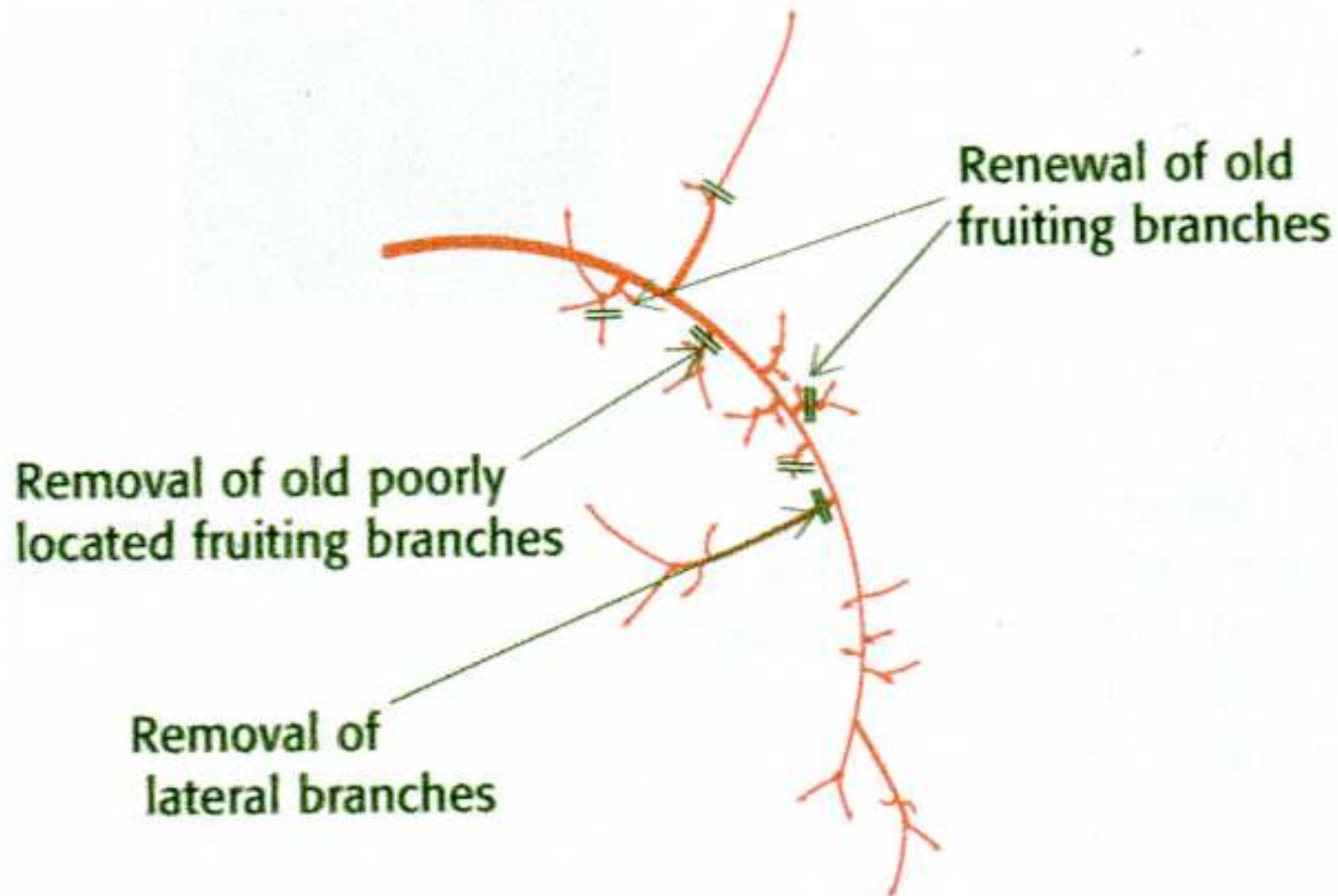
Applying it consistently



We need to have simple Tree Forms?



“Long pruning”









The Tree





The Orchard

The Industry



Performance is achieved through consistency



- High tree density
- Simple branches
- Simple management



Crop loading



- Setting an appropriate target
- Achieving it consistently

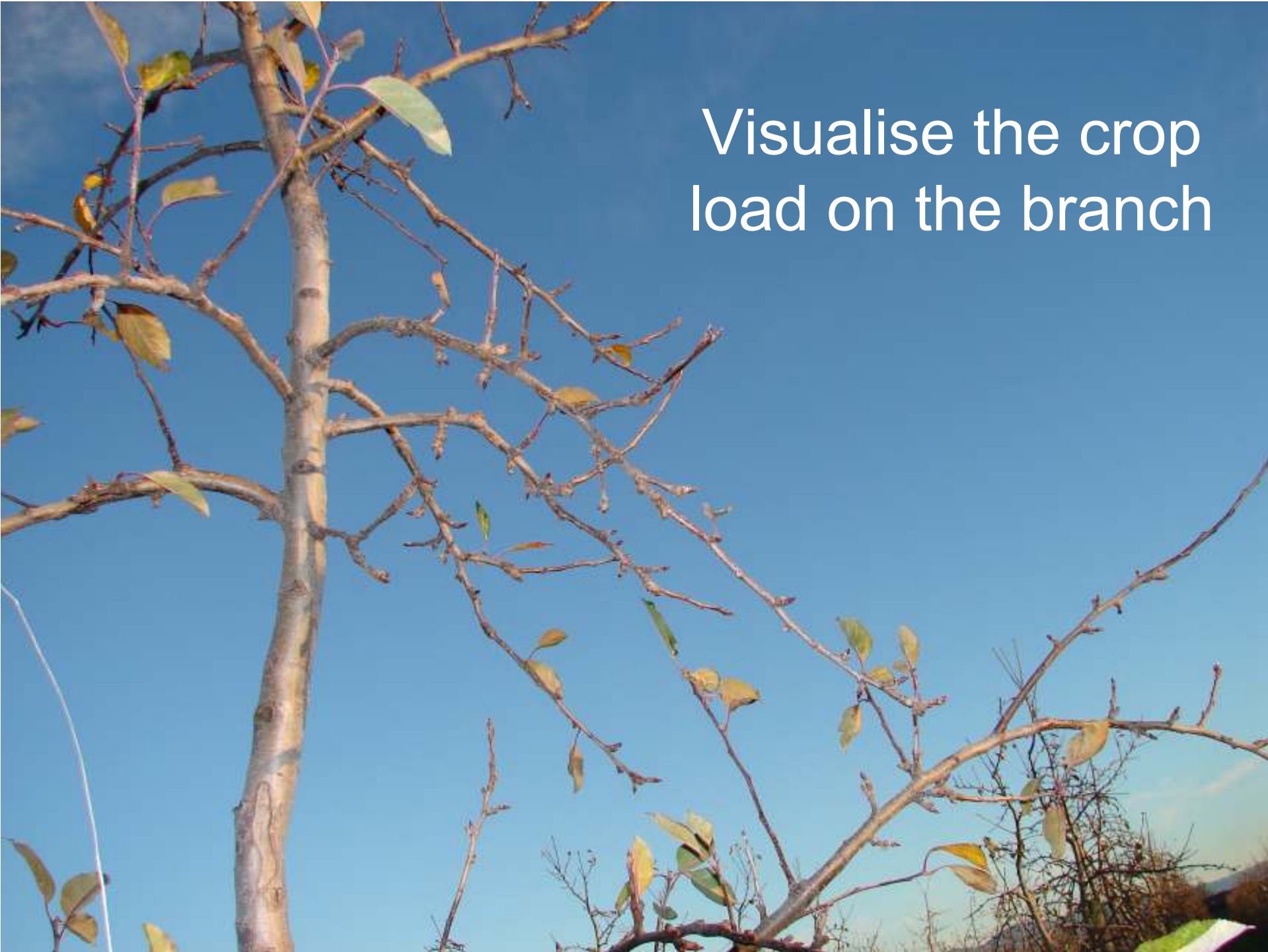


Setting a target



- History
- Visualise
- calculate





Visualise the crop load on the branch



Visualise the crop
load on the
branch

Then branches
per tree

Then trees per ha

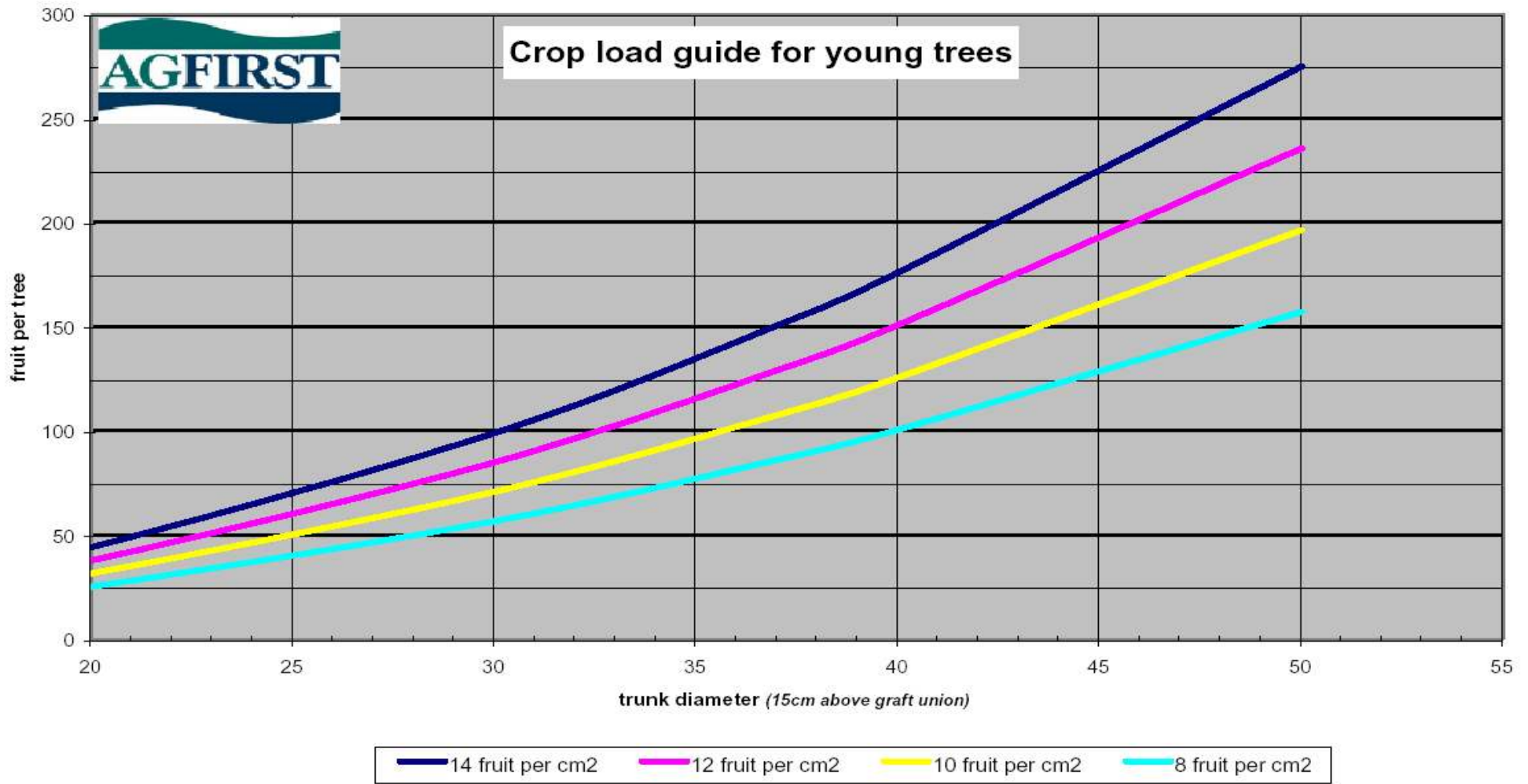
Trunk cross sectional area



- $TCA = (1/2 \text{ diameter})^2 \times 3.142$



Calculated basis fruit per cm²



Achieving consistency



- Simple systems
- Supervise and count
- Branch diameter

