Tree Architecture and Training

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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”

- Renewal of old fruiting branches
- Removal of old poorly located fruiting branches
- Removal of lateral branches
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
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
- Simples 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

- \( TCA = \left(\frac{1}{2} \text{ diameter}\right)^2 \times 3.142 \)
Calculated basis
fruit per cm$^2$

Crop load guide for young trees

Trunk diameter (15cm above graft union)

Fruit per tree

- 14 fruit per cm$^2$
- 12 fruit per cm$^2$
- 10 fruit per cm$^2$
- 8 fruit per cm$^2$
Achieving consistency

• Simple systems
• Supervise and count
• Branch diameter