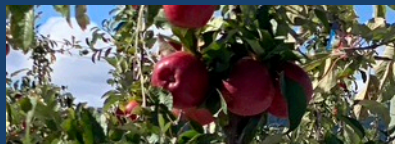
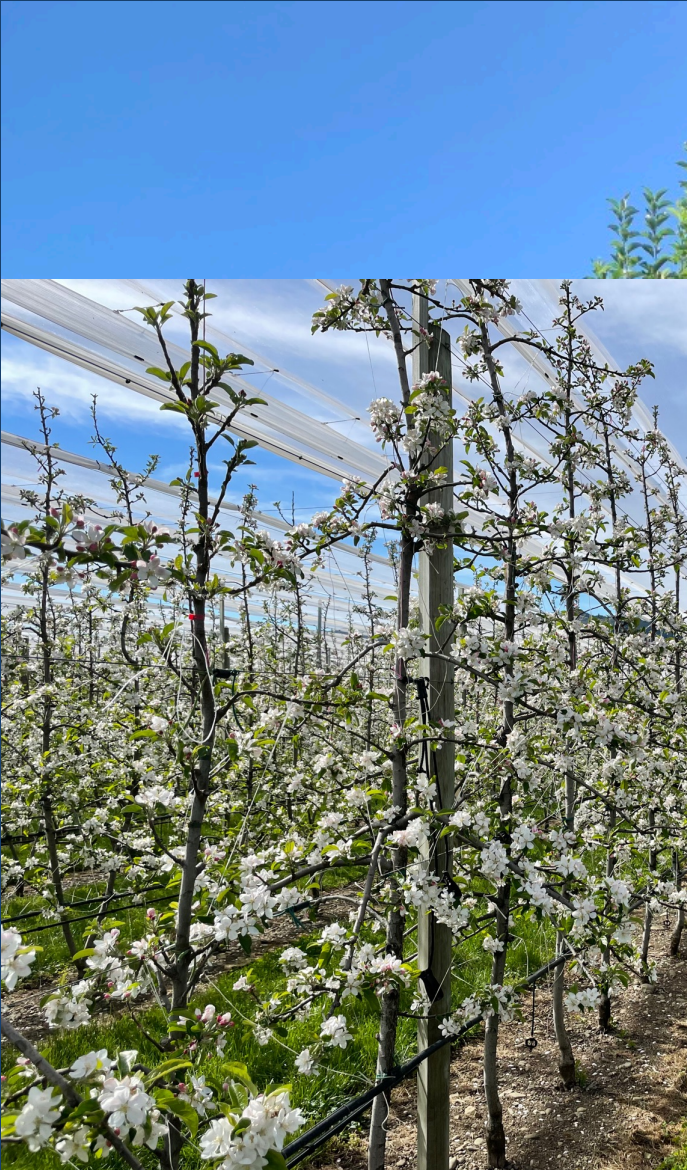


NZ Orchard Systems

Craig Hornblow
June 2024



NZ Orchard Systems are Varied



Passion and Execution.

The best system:

“the one that the Orchard Manager believes in”



Context

- High priced Land
- High priced labour
- Larger orchards
- 95% export



SNAP-E

- **S**imple
 - Create focus
 - Objective
- **N**arrow
 - Better light
 - mechanisation
- **A**ccessible
 - <40cm , (arm reach)
 - Labour efficiency
- **P**roductive
 - 200T/ha in 5yrs
 - >90 t/ha
 - Targeted fruit
- **E**nduring
 - 20 years +
 - Rootstocks
 - Ground conditions



Simple



3D to 2D

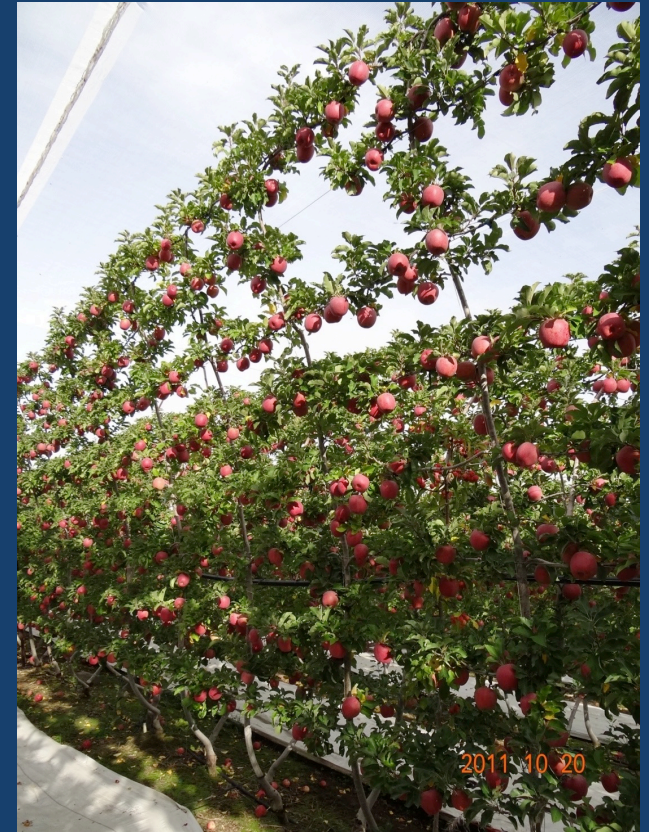


Simple rules of management



BACK
TO
THE FUTURE

Lots of options

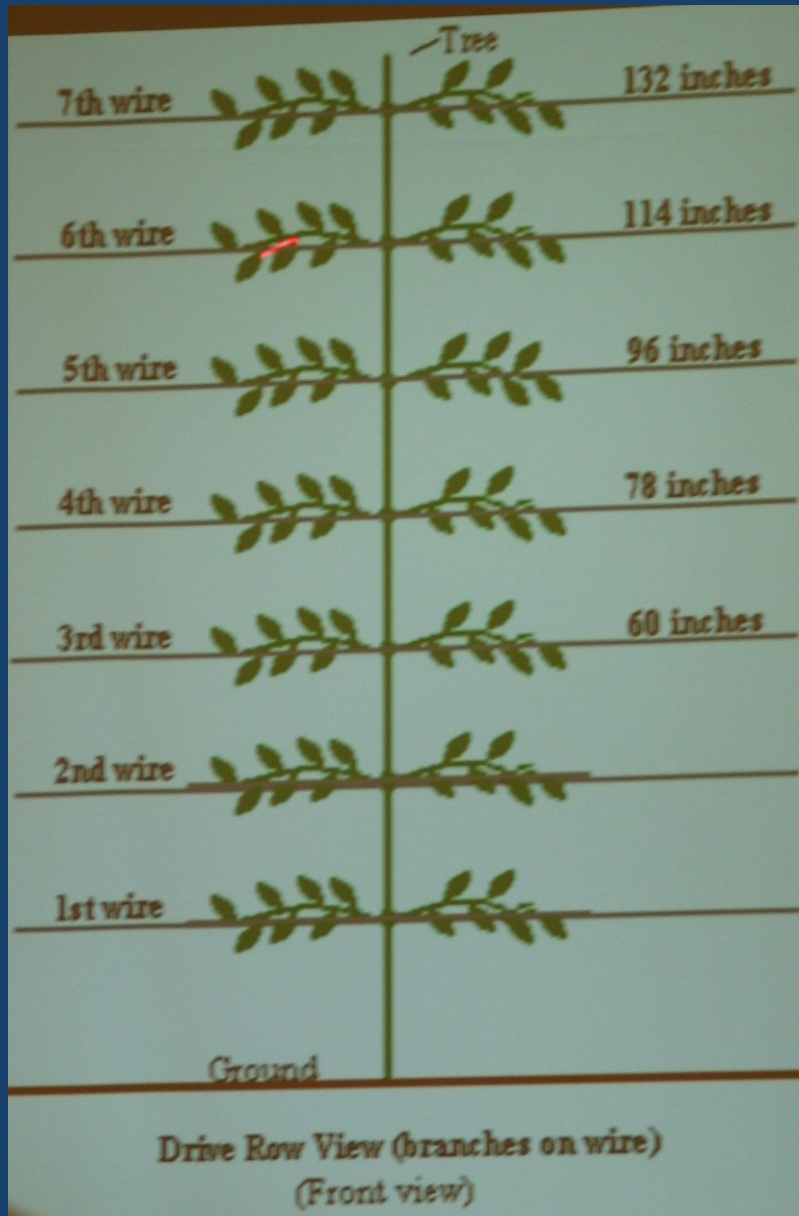


single and multiple stems



Informal or Formal





Dave Allan design – IFTA 2005

“we spend more time debating
the density rather than tree
growth and tree form”

Formal 2D



S Narrow A P





3- 5 row rule
50 % shade
800 μmol s



Managing windows

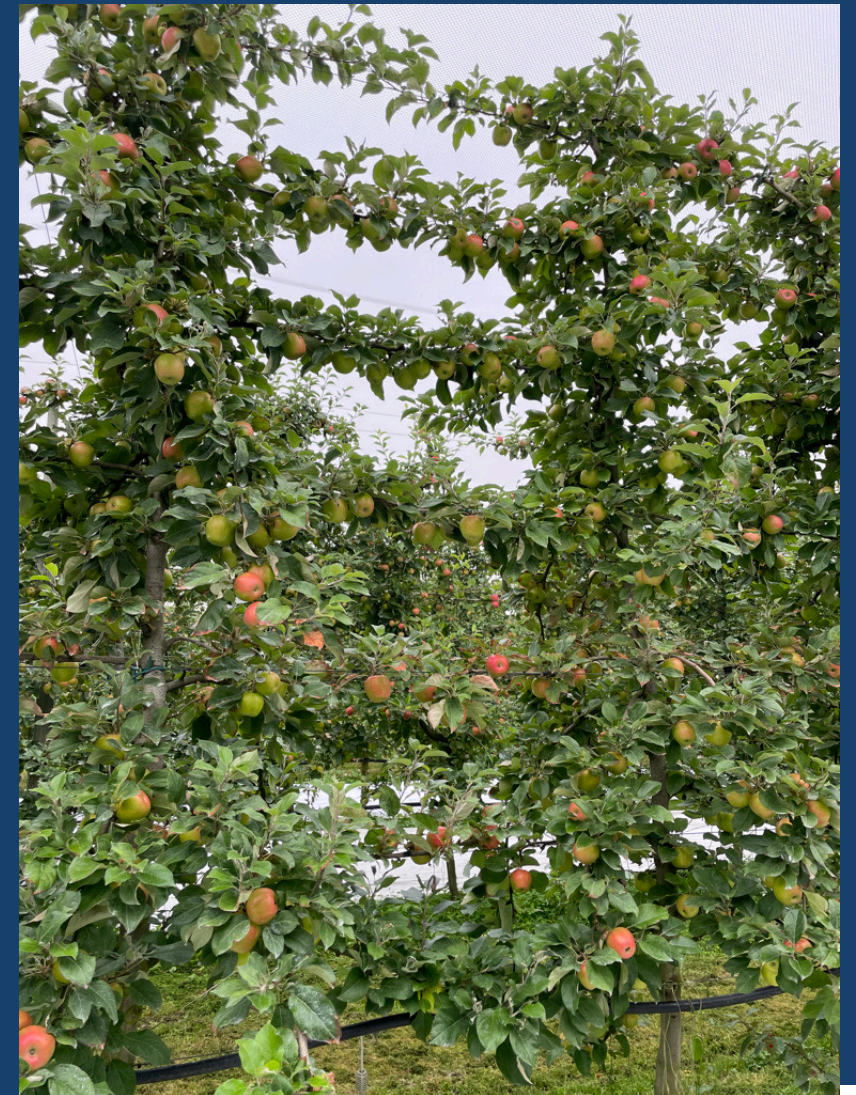
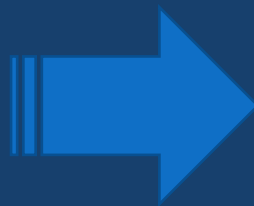


Managing windows



Managing windows

Amending Old Planting's



Mechanical pruning



Leaf blowing



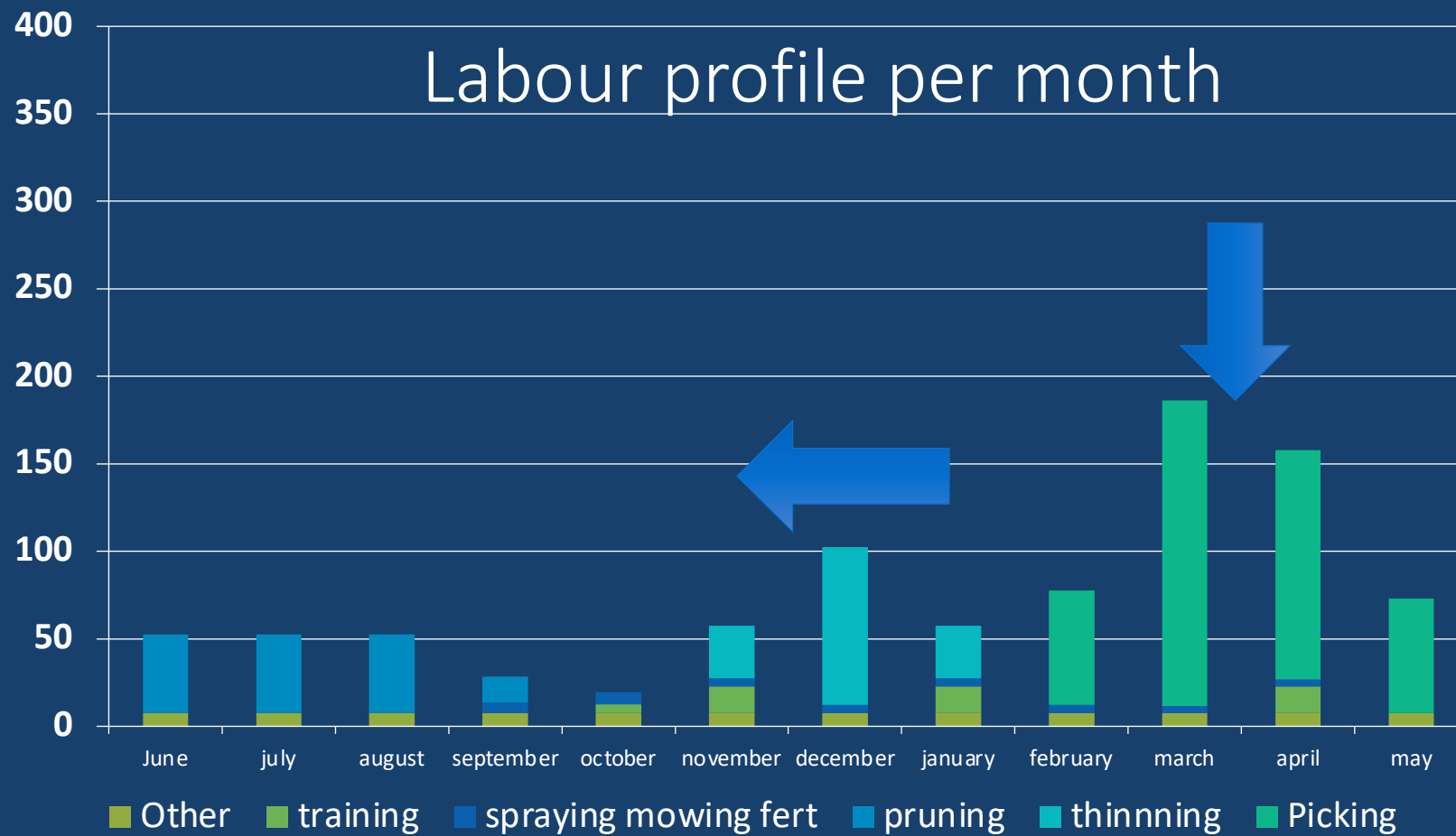
Platforms



More ladders or Platforms



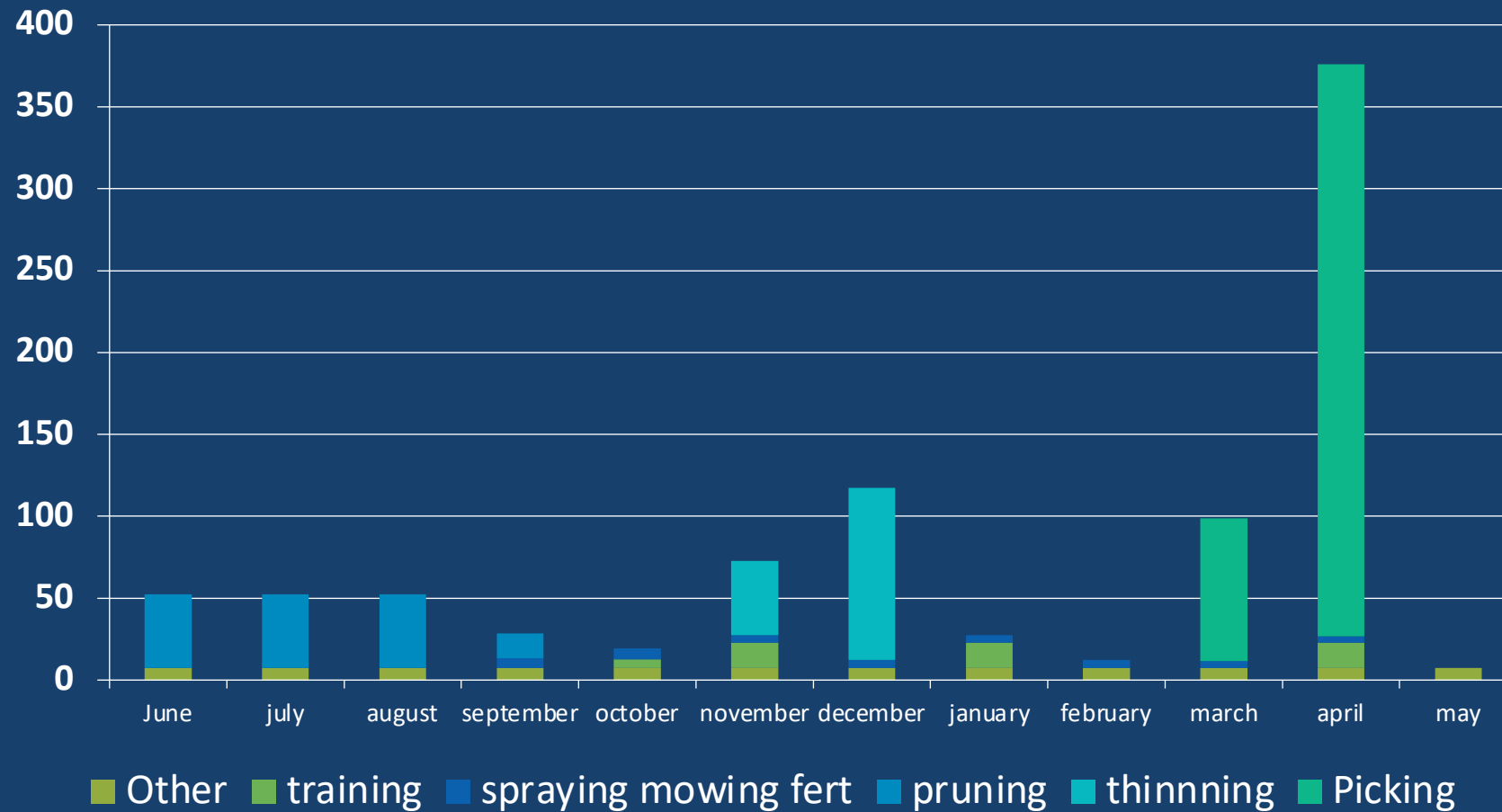
S
N
Accessible
P



1000 hrs

1 per hectare

Labour per month (2 late varieties)



3 per hectare

It's physical work



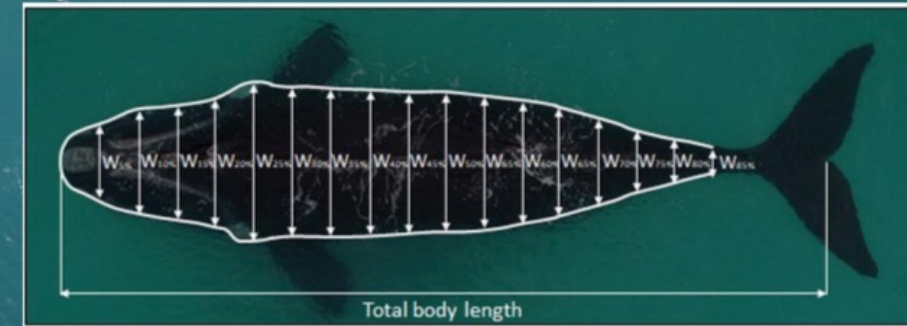
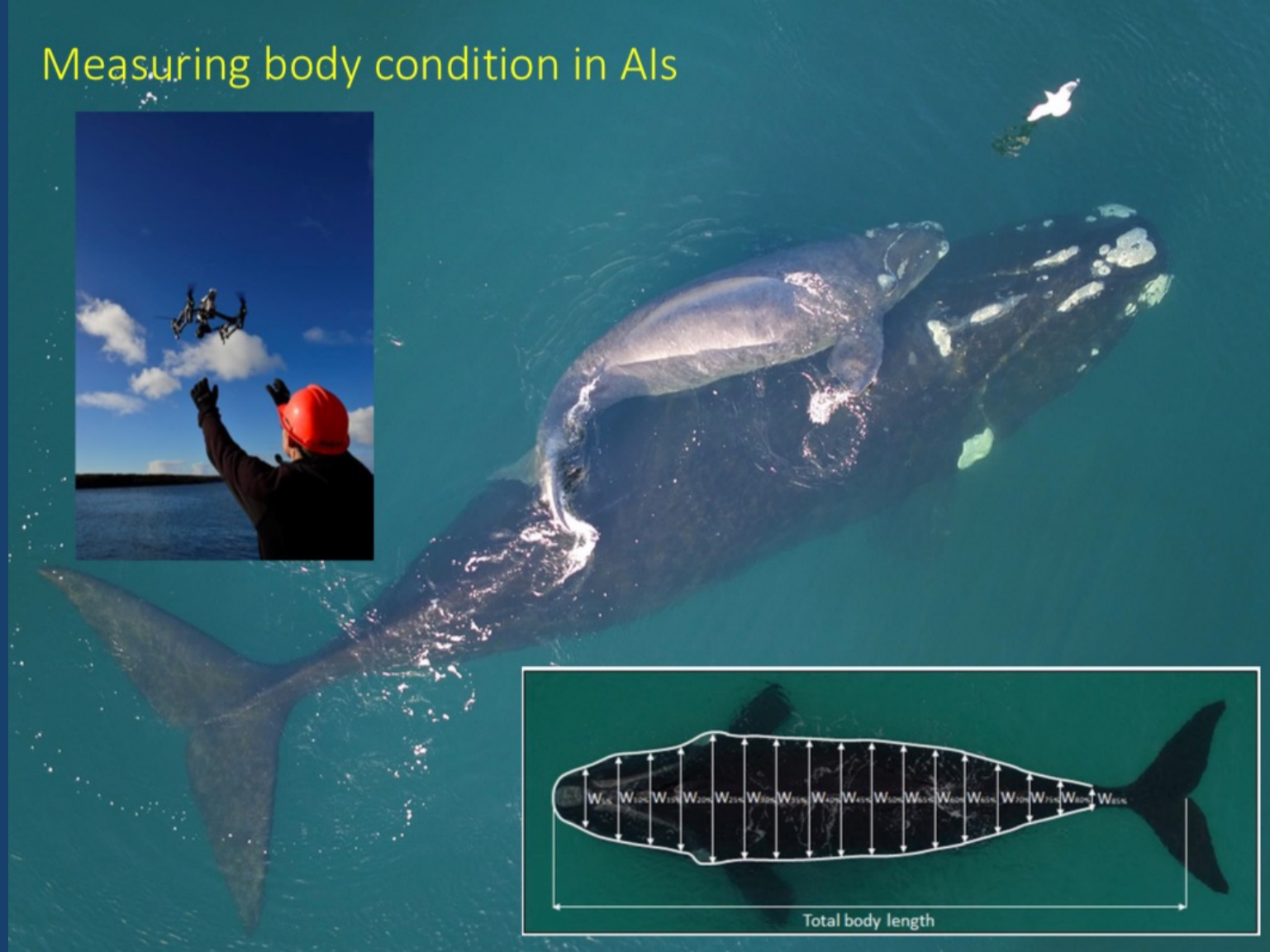
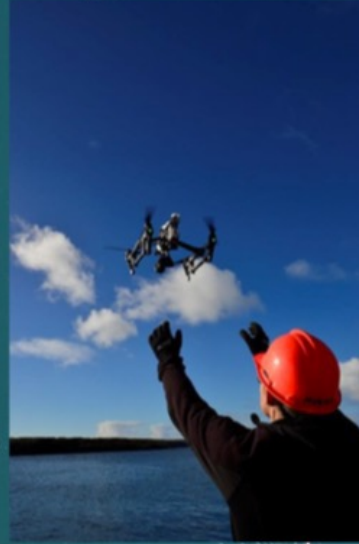
2000 trees/ha x 1.5m
= 3500m climbing per ha

Base camp to Everest summit
= 3500m climbing per ha



Its Physical Work

Measuring body condition in Als



1 bin = 400 kg

4 bins/ day = 1600 kg per day

5 days per week = 8000 kg / week

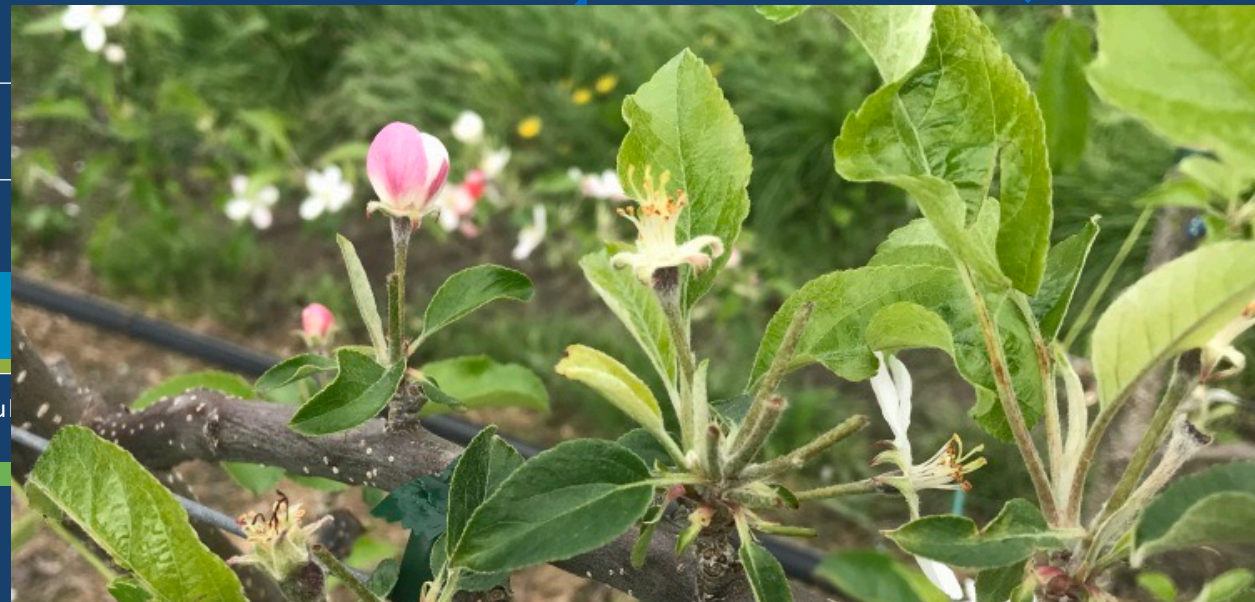
12 weeks per season = 100 tonnes / season

A little more than the weight of a southern right whale

S
N
Accessible
P

400
350
300
250
200
150
100
50
0

June jul
Other



1000 hrs

1 per hectare

Picker efficiency gains

20 or is it 50%+



Its getting closer but....



S
N
A
Productive



20-35 km



25-38 km



33 km



37 km



42 km



33 km

2.7 Kg/m

90 t/ha

3 Kg/m

100 t/ha



42 km

113 t/ha

126 t/ha

2D

oldest in NZ now 14 years

Mature yields

5 year Accumulative yields

83-125 t/ha

185-235 t/ha



Enduring

\$NZ 200K +

15 – 30 years



Enduring



Enduring



Enduring - rootstock



SNAP

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 - focus
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