

# Using data to inform grower extension

Phillip West, Miguel Tapia-Gatica, NZ Avocado

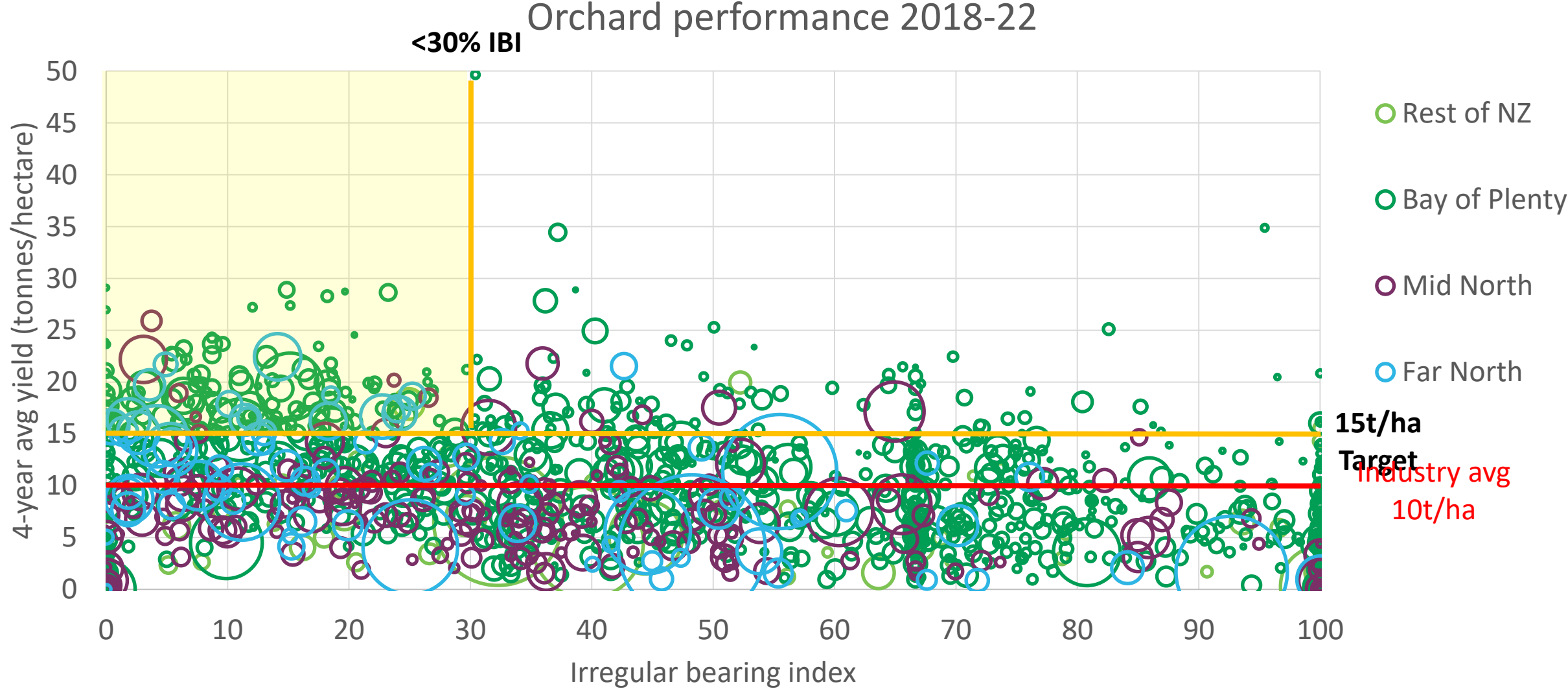
Jelena Cosic, Louis Ranjard, Alvaro Orsi, Ian Yule, PlantTech



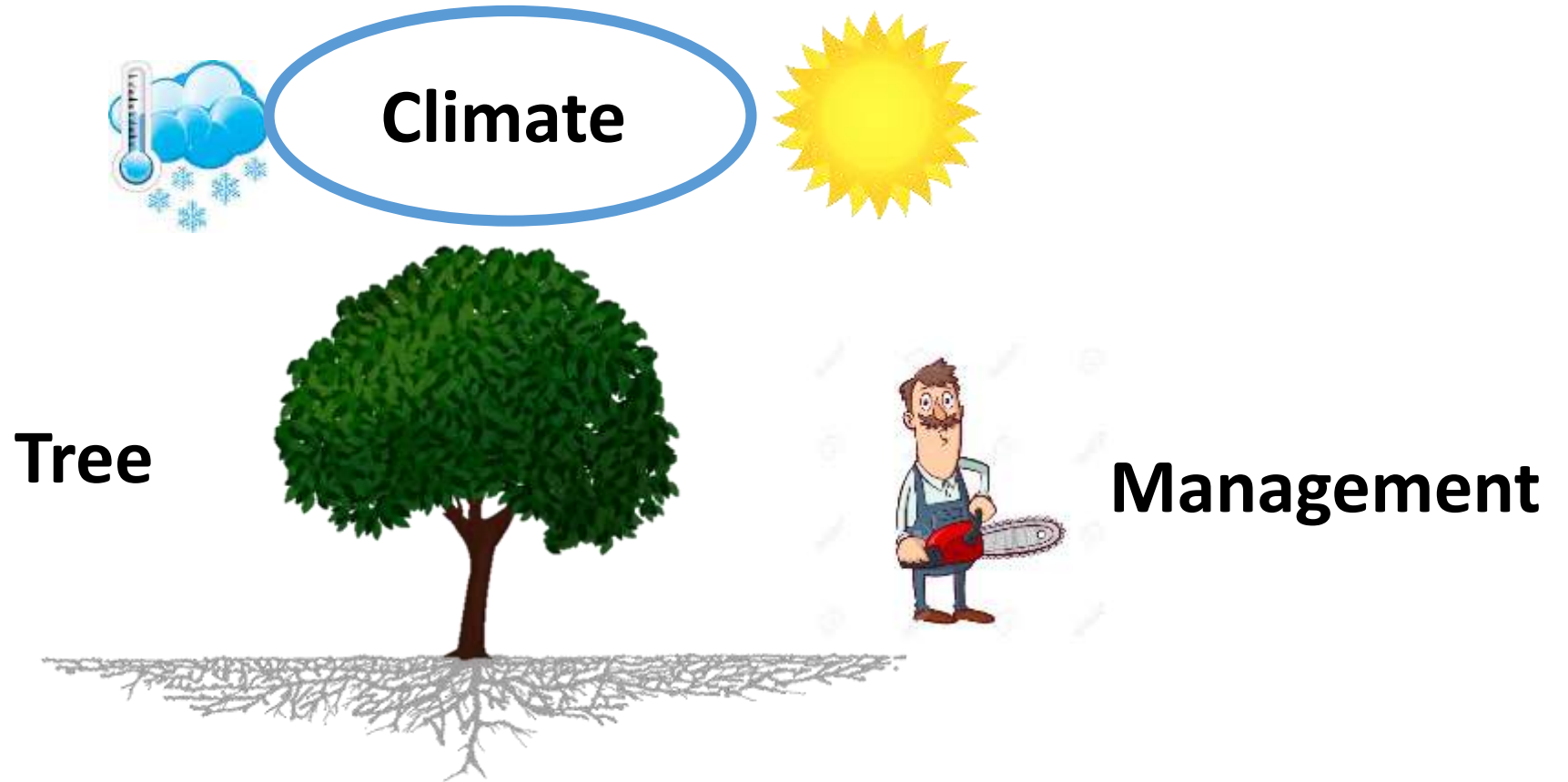
New Zealand  
**Avocado**

NZ Avocado Growers' Association Inc.  
NZ Avocado Industry Ltd

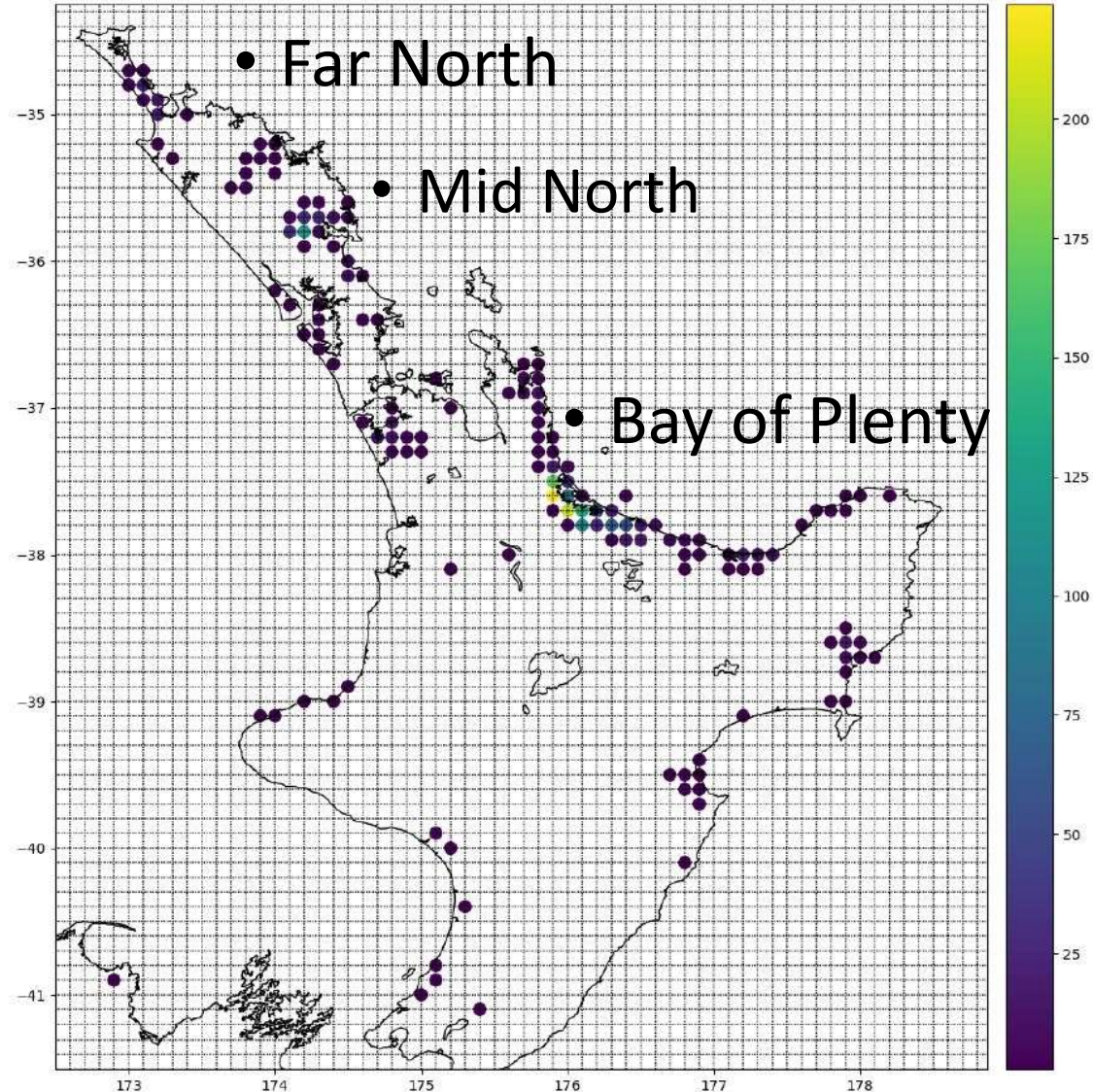
# Variability in orchard performance



# Influencing factors



# Influence of weather



- Are our assumption about weather correct?
  - Hypothesis testing
- What factors are the most influential?
  - Integrative model

# Influence of weather – Hypothesis testing

- Alternate bearing present
- Late harvest negatively affects following season
- Cold spring temperatures negative impact yield.
  - Frost, ovule damage, delayed flower opening
- No combined effect of wind and rain assumed to influence bee activity.



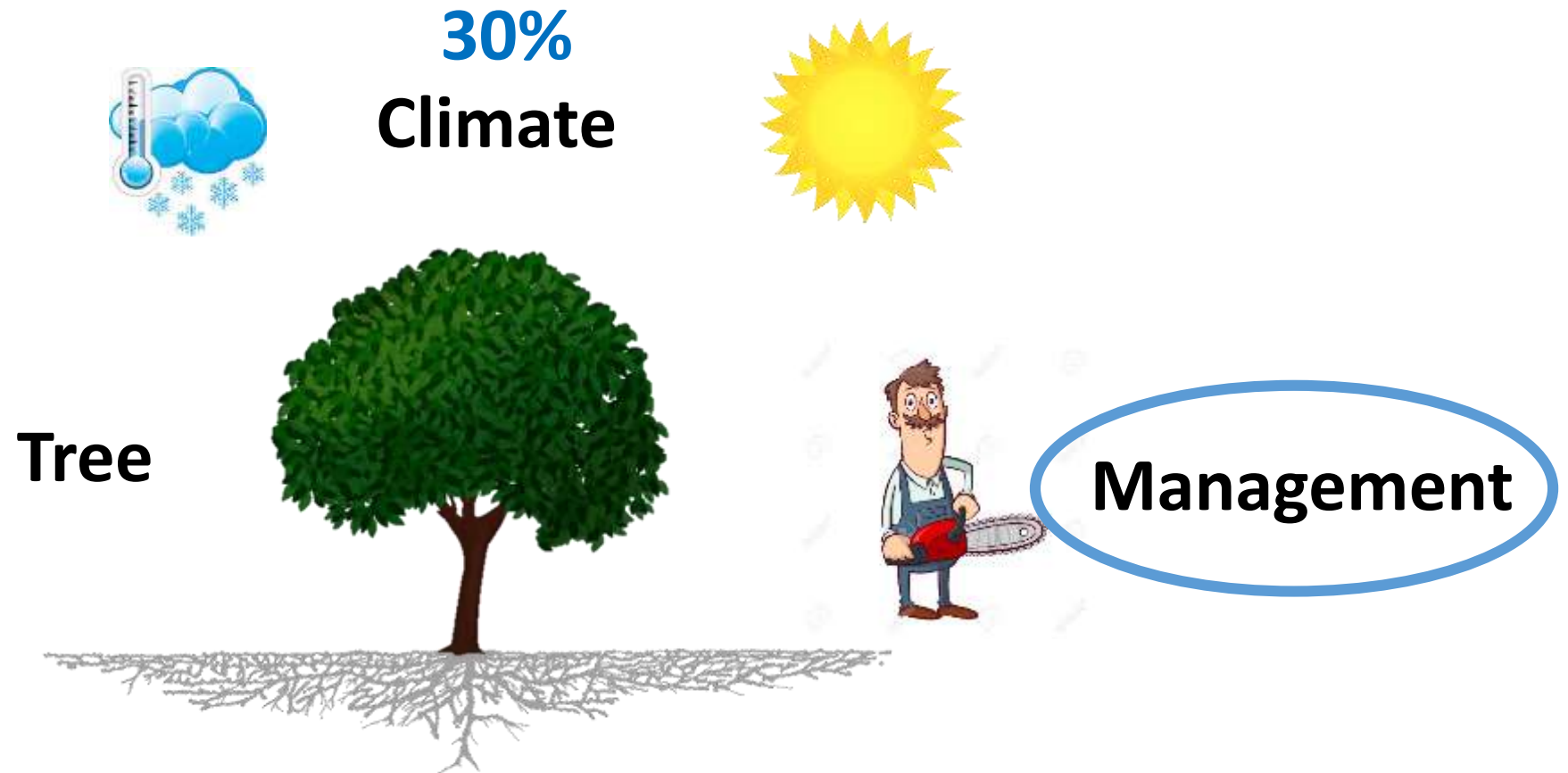
# Influence of weather integrative model

30% of yield variability explained by production and weather data.

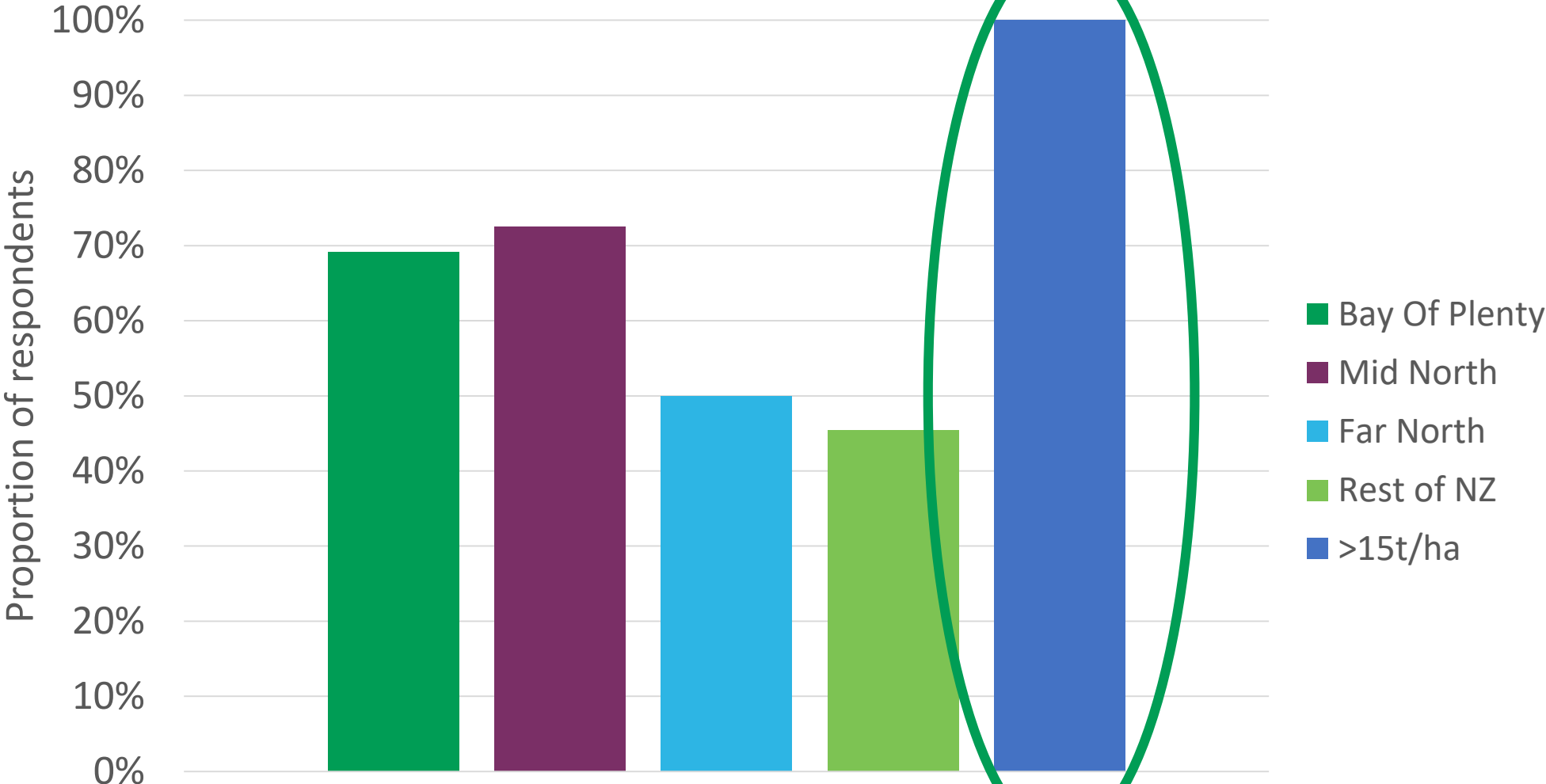
s2\_RadFlux\_summer  
s1\_Days\_50%picked  
s1\_Yield  
s2\_Ave\_temp\_summer  
s1\_Ave\_wind\_autumn  
s1\_RadFlux\_summer  
s1\_Days\_rain\_spring



# Influencing factors



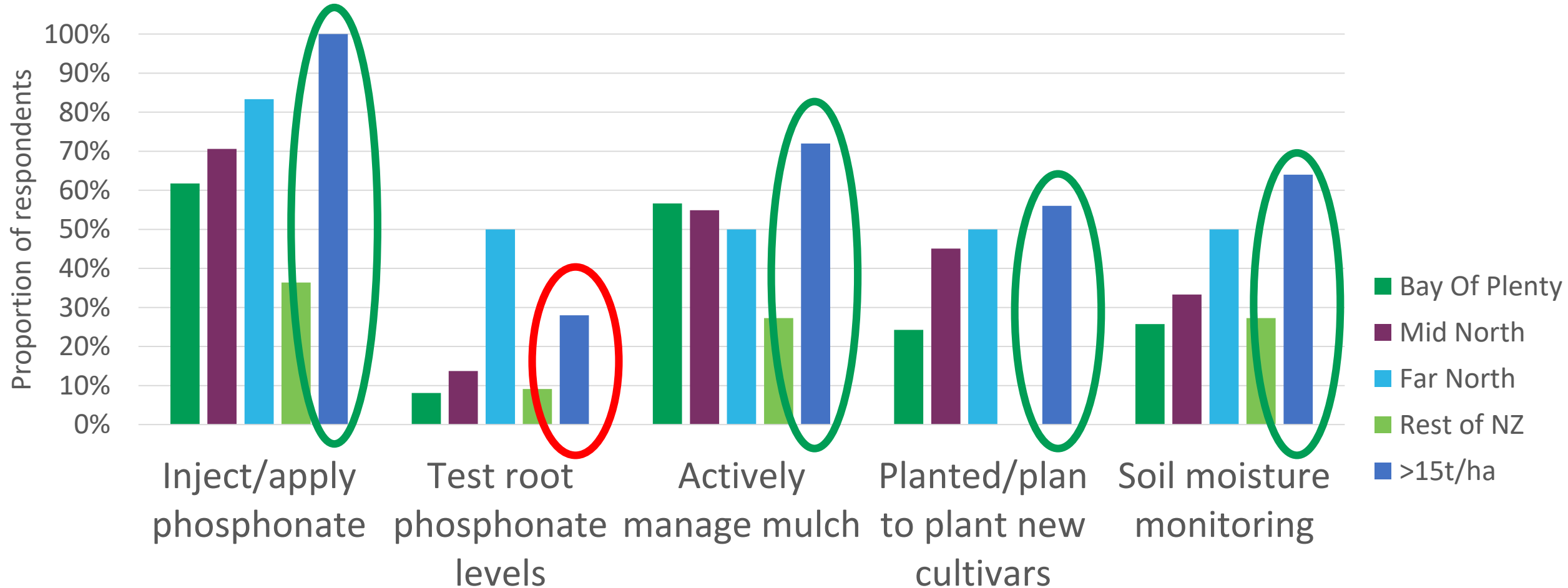
# Pruning



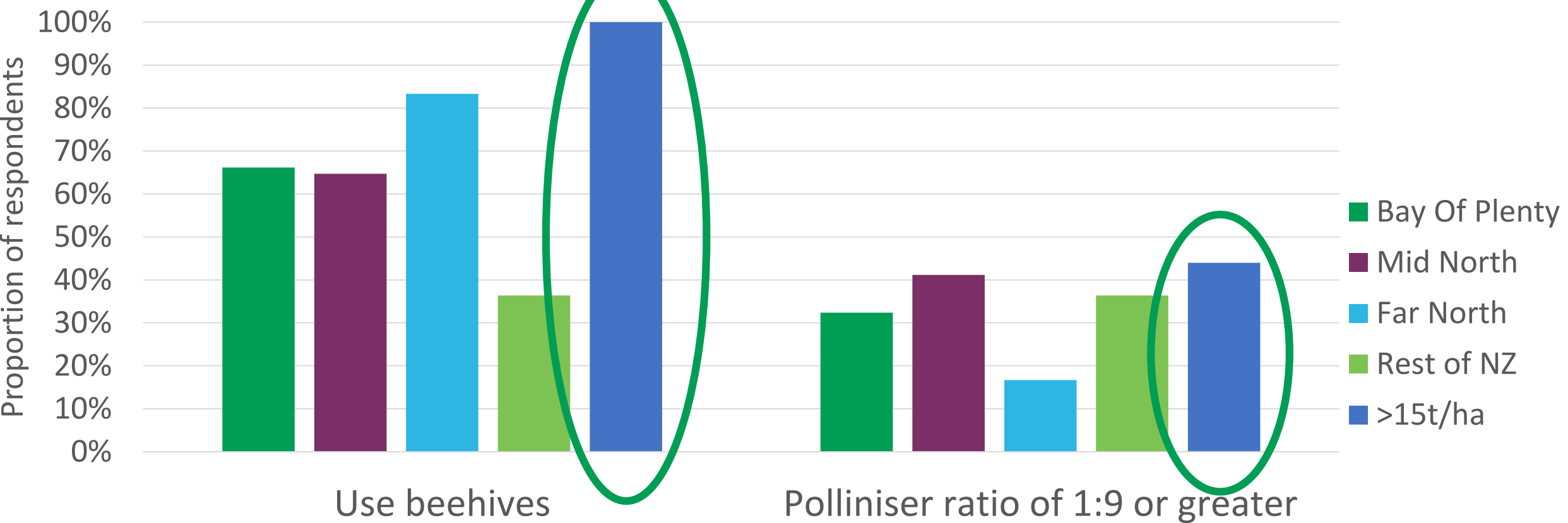
A pruning strategy to manage and balance my trees



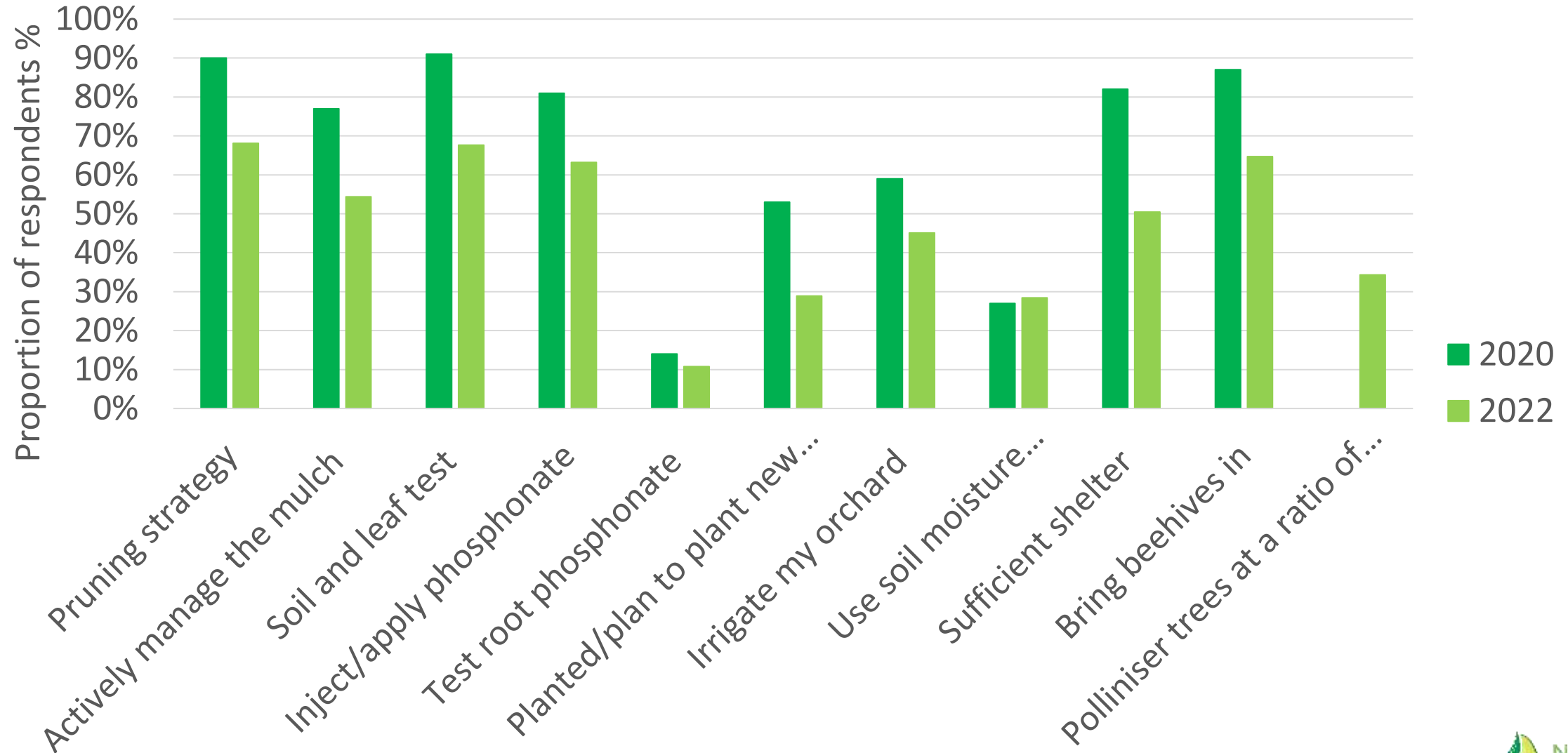
# Phytophthora control



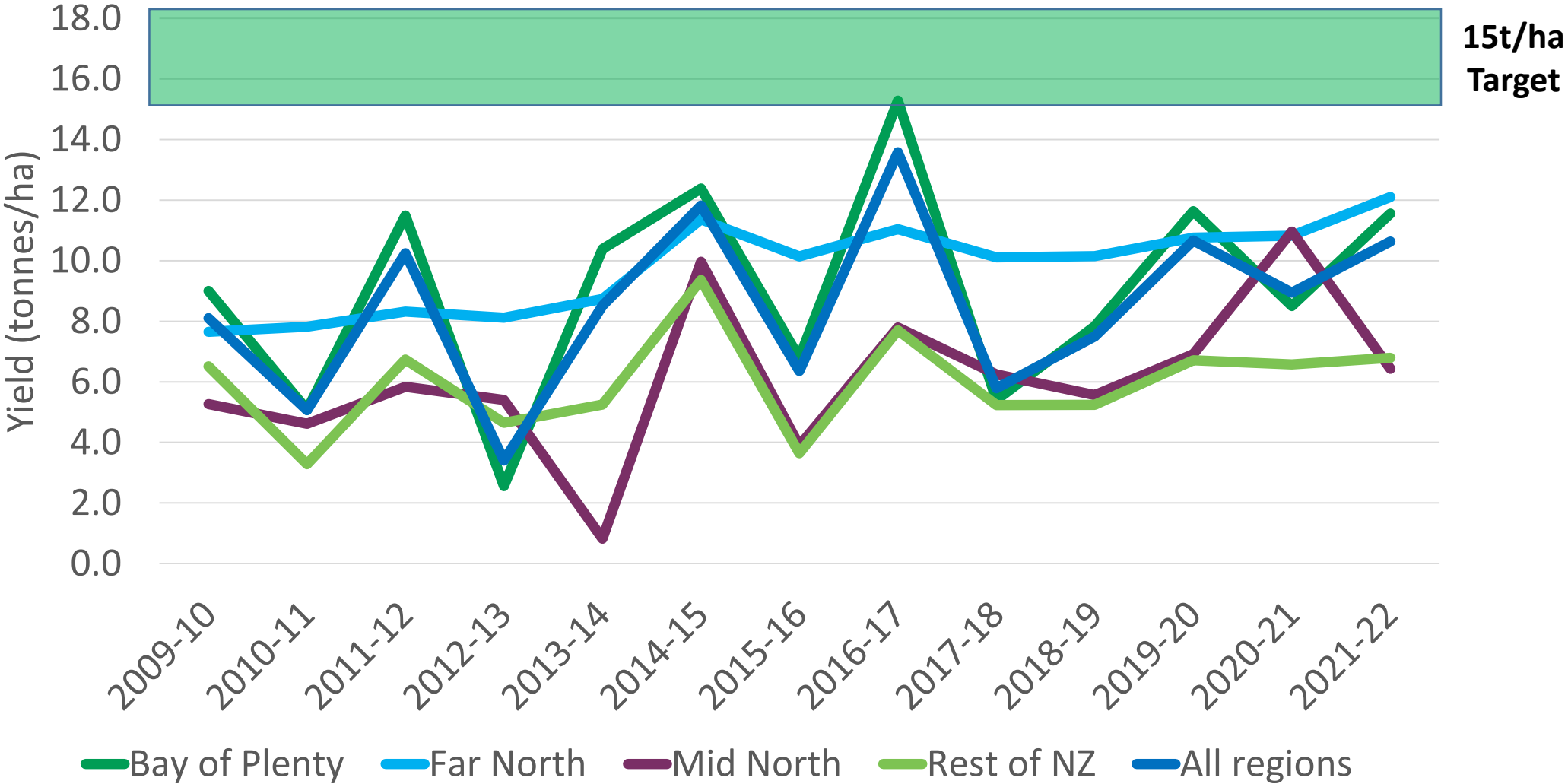
# Pollination



# Extension – Are we changing behaviour?



# Orchard yield



# Conclusion

- Greater confidence in best practice
- Data supported develop and communication of key messages
- Important to sense check results with people on the ground



A large red plastic crate is filled with numerous ripe, green avocados. The avocados are piled together, showing their characteristic bumpy, green skin. In the background, the dense green foliage of an avocado tree is visible, with some small avocados hanging from the branches. The scene is brightly lit, suggesting a sunny day outdoors.

# Questions