

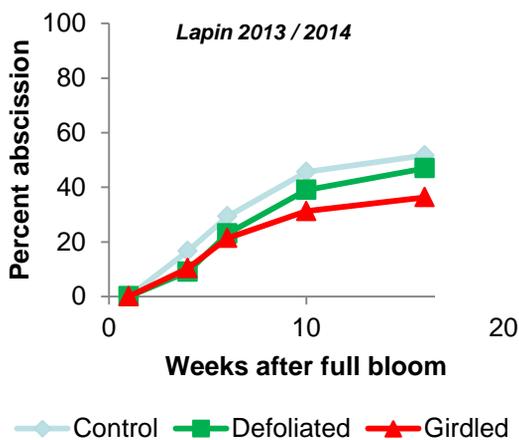
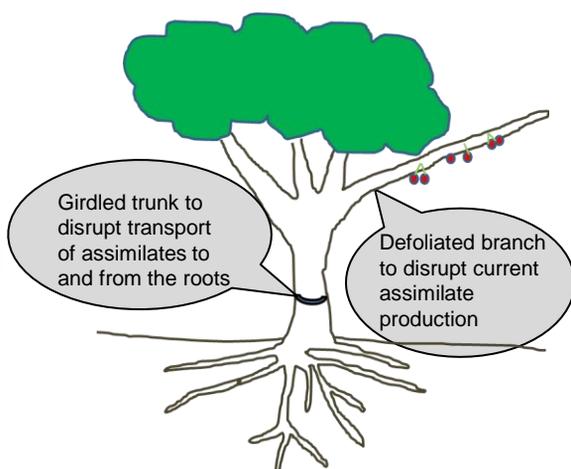
Cherry shedding under the microscope



This three year study is designed to test the relationship between internal tree carbohydrate reserves and shedding, and possible management techniques to minimise its impact, and we have now reached the half way point.

Background

- This trial attempted to disrupt the competition between developing fruitlets and other sinks
- Lapin and Kordia trees in a commercial orchard in the Huon Valley were selected.
- Defoliation and girdling were both applied, 6 weeks after full bloom.



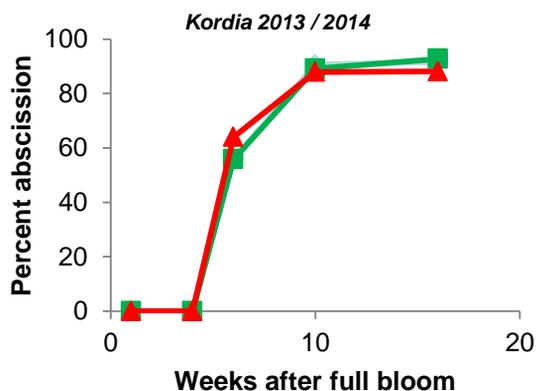
Preliminary findings

- Fruitlet shedding was considerably higher in Kordia than in Lapin in both years
- Fruitlet drop in Kordia appeared to be due to lack of fruit set, rather than true abscission
- In both years trunk girdling significantly reduced the amount of shedding in Lapin, but not in Kordia (see graphs)
- Kordia had higher starch concentrations than Lapin at all times of the year, but significantly lower wood volume per fruitlet

Further research

The final season of the trial will investigate

- Fruit set in Kordia
- The use of growth regulators for promoting fruitlet retention
- Whole tree carbohydrate transport to confirm sink strength of developing fruitlets



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Key Message

- Shedding in Lapin may be managed to an extent by trunk girdling
- Kordia yield is limited by fruit set, which does not appear to be related to carbohydrate reserves
- Managing carbohydrate reserves will have a role to play in achieving target yields.

Looking for tools to minimise shedding in cherries



In some seasons sweet cherries lose much of their fruit before it ripens. This loss is called fruitlet abscission or shedding, and in some cases can lead to an almost total failure of the crop. Growers need tools for managing shedding.

This three year study is designed to test the relationship between carbohydrates and shedding, and possible management techniques to minimise its impact.

Background

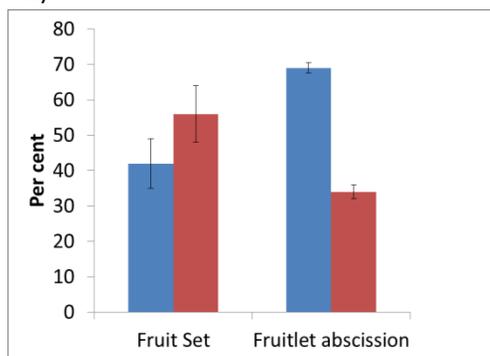
Previous research suggests a strong relationship between carbohydrate availability for fruitlet growth and the likelihood of shedding.

The woody skeleton of the fruit tree is a store house for reserves, and provides both carbohydrates and mineral nutrients for growth during the early part of the season following budburst.

Once the leaf canopy has been established by the emerging shoots, photosynthesis is the primary source of carbon for growth and replenishment of reserves.

We know that assimilates move from sources to sinks.

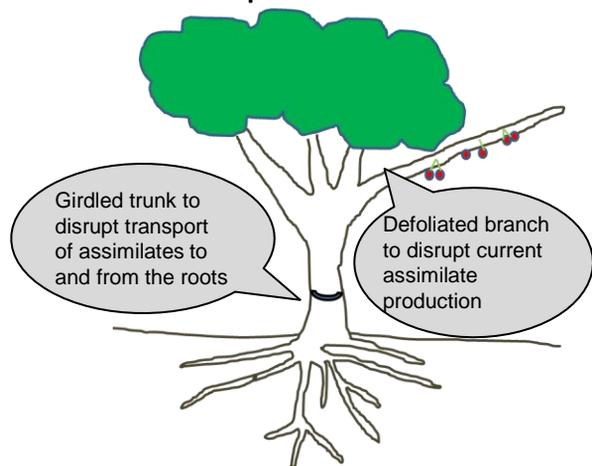
- ❖ Sources include ; leaves, trunk and roots
 - ❖ Sinks include; Young leaves, flowers, actively growing roots and shoots, and fruit
- A preliminary study indicated a difference in shedding between **Kordia** and **Sylvia** (see below).



Theory behind the project

If we can disrupt the competition between developing fruitlets and the other sinks or increase source availability, shedding may be minimised.

Removing leaves, or defoliation, is a technique which is effectively removing the source of current assimilates, forcing the tree to draw on its reserves.



Girdling the trunk on the other hand, disrupts the transport of assimilates to the roots to support new root growth, thus potentially leaving more assimilates available for fruit growth.

Research Plan

Kordia and Lapin trees at a commercial cherry orchard in the Huon Valley were subjected to 3 treatments, 6 weeks after full bloom;

- ❖ Defoliation of all leaves on a selected branch
- ❖ Girdling (2 'c' overlapping cuts, one each side of the trunk)
- ❖ Retain application

Carbohydrate content of roots, trunk and branches at different times of the season, fruit set, shedding, crop load, cherry yield and basic fruit quality measures were all recorded.

Key Message

This project will assist in the management of cherry shedding .

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