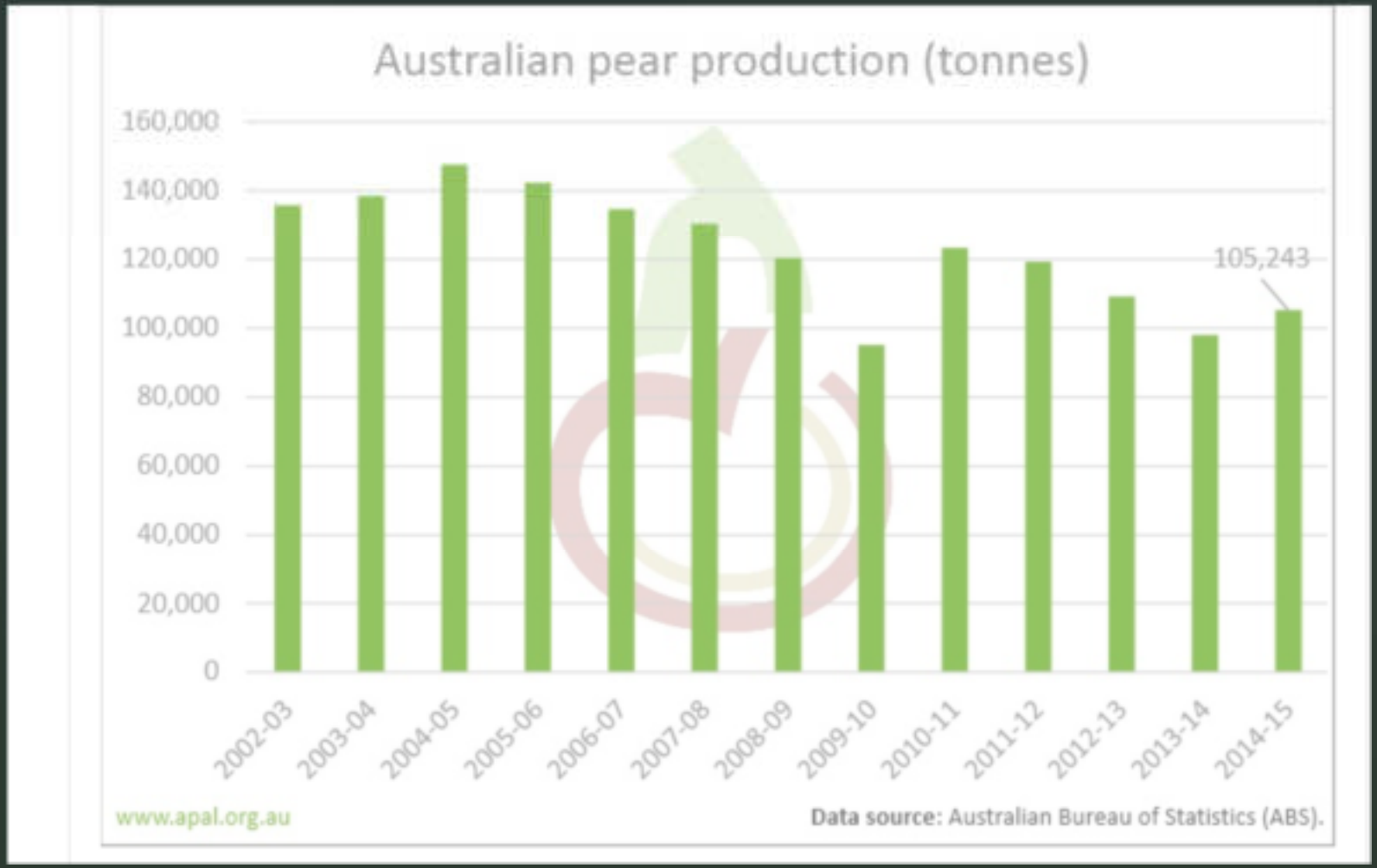
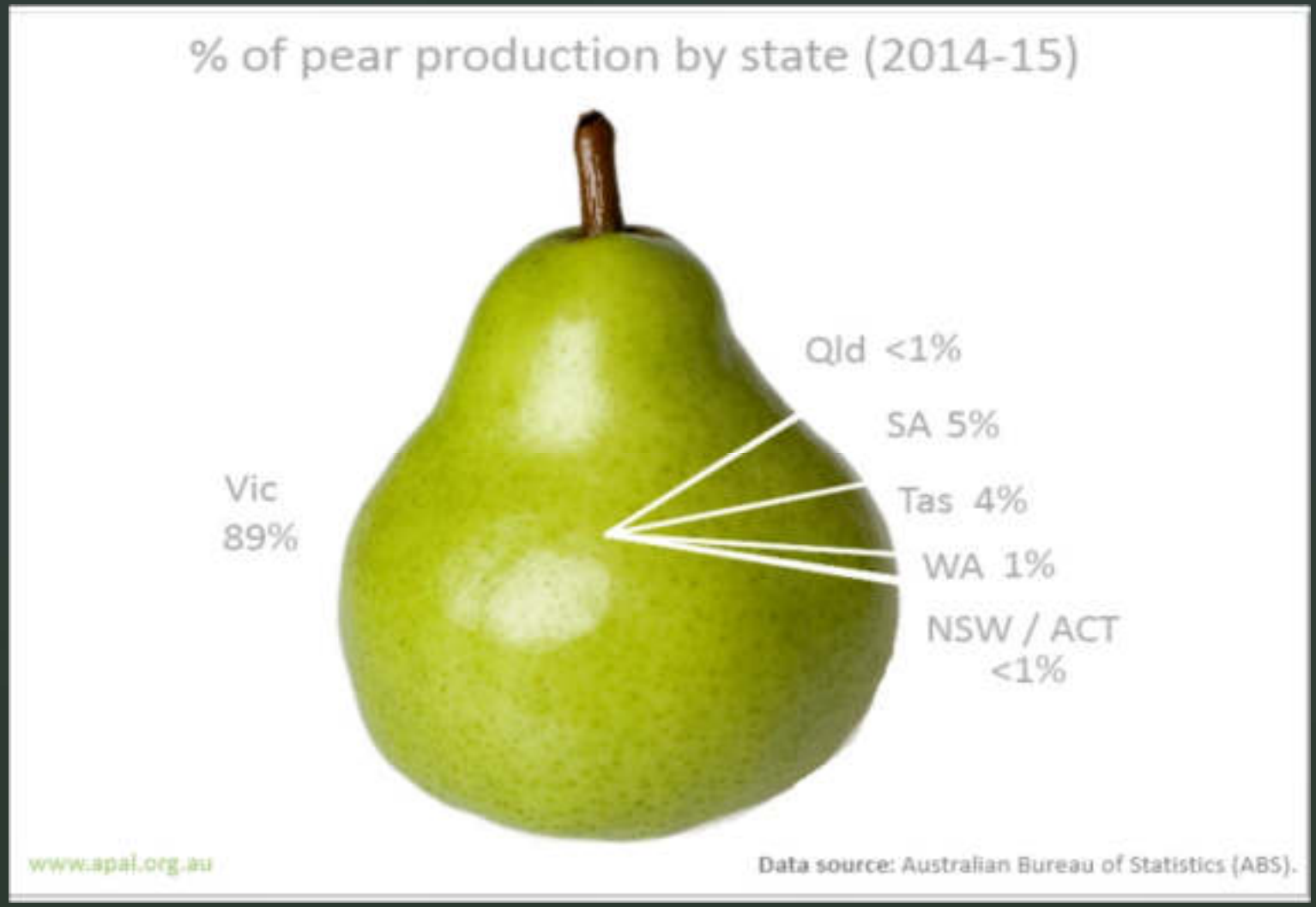
Pear growing in Australia.

Marcel Veens Horticultural Adviser Pty.Ltd.


Australian pear production (tonnes)
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
105,243
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
www.apal.org.au
Data source: Australian Bureau of Statistics (ABS).

The state Victoria produces around 98,000 tonnes of pears with a gross value of $93 million.

This represent 89 per cent of Australia's total pear production (by volume) and 81 per cent of the total gross value of Australia's pear production.


% of pear production by state (2014-15)
Vic
89%
Qld <1%
SA 5%
Tas 4%
WA 1%
NSW / ACT
<1%
www.apal.org.au
Data source: Australian Bureau of Statistics (ABS).


Australian
pears
rediscoverthepear.com.au

Beurre Bosc

Corella/Forelle

Josephine de Malines

Williams' Bon Chretien

Packham's Triumph

Red Anjou

New pear varieties.

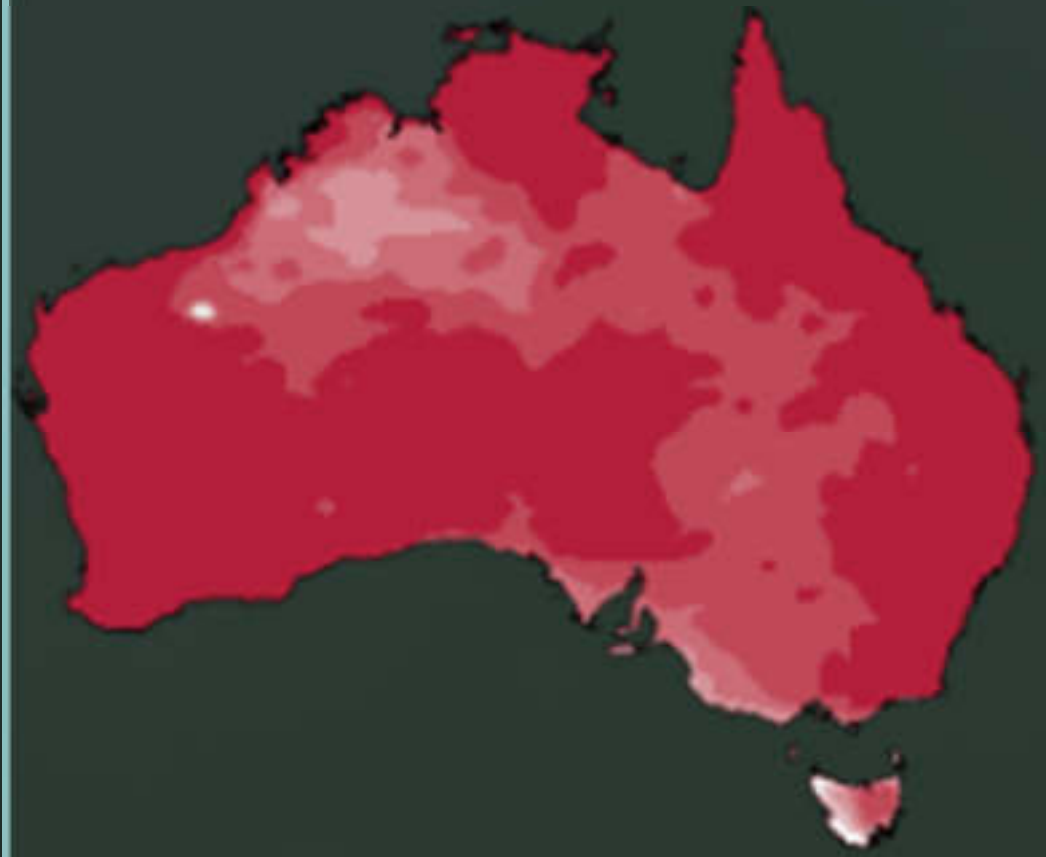
With pears there is a move to better colour selections of the more traditional red pears, whilst the increasing production of the Australia bred Lanya® and Ricó® pears has the potential to change the pear consumers experience as these eat very well as a “green pear“.


Ricó®

Lanya®

Interspecific pears.
The breeding program uses parents with heritage from three different species of pear: Pyrus communis, the traditional European pear; Pyrus pyrifolia, including the Japanese (nashi) pear; and Pyrus bretschneideri from China.

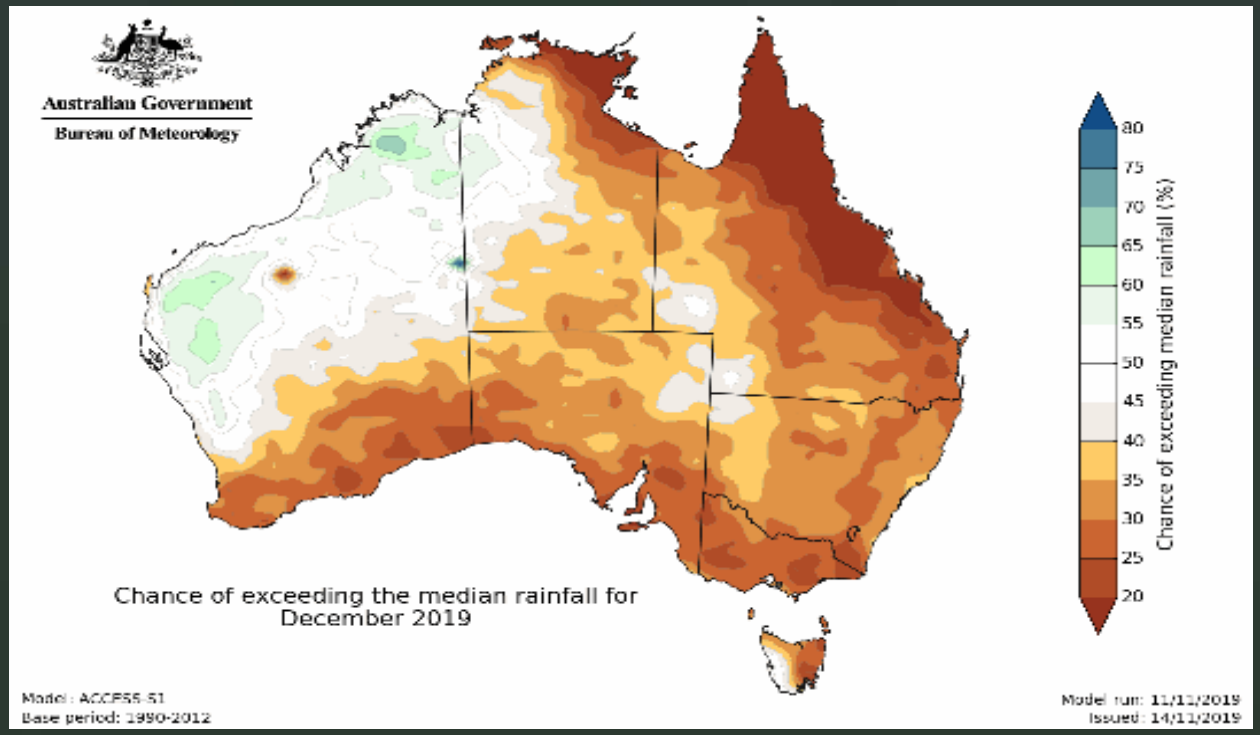
Papple™ and Piqa® Boo® branded fruit are the first commercial club varieties from this breeding program.



The biggest difference between Europe and Australia is the climate.

Daytime temperatures for this summer are very likely to be warmer than average across Australia.

Drier than average forecast for the remainder of 2019



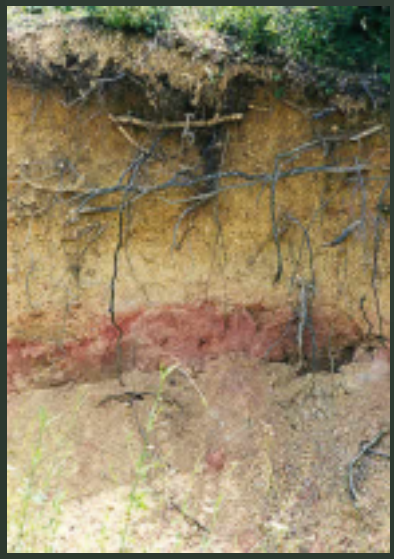
Water is the limiting factor for high yields.

The aim is to use water as efficient possible.

Soil Moisture Sensor,
Water Pressure Sensor,
Dendrometer & Stem
Diameter Sensor

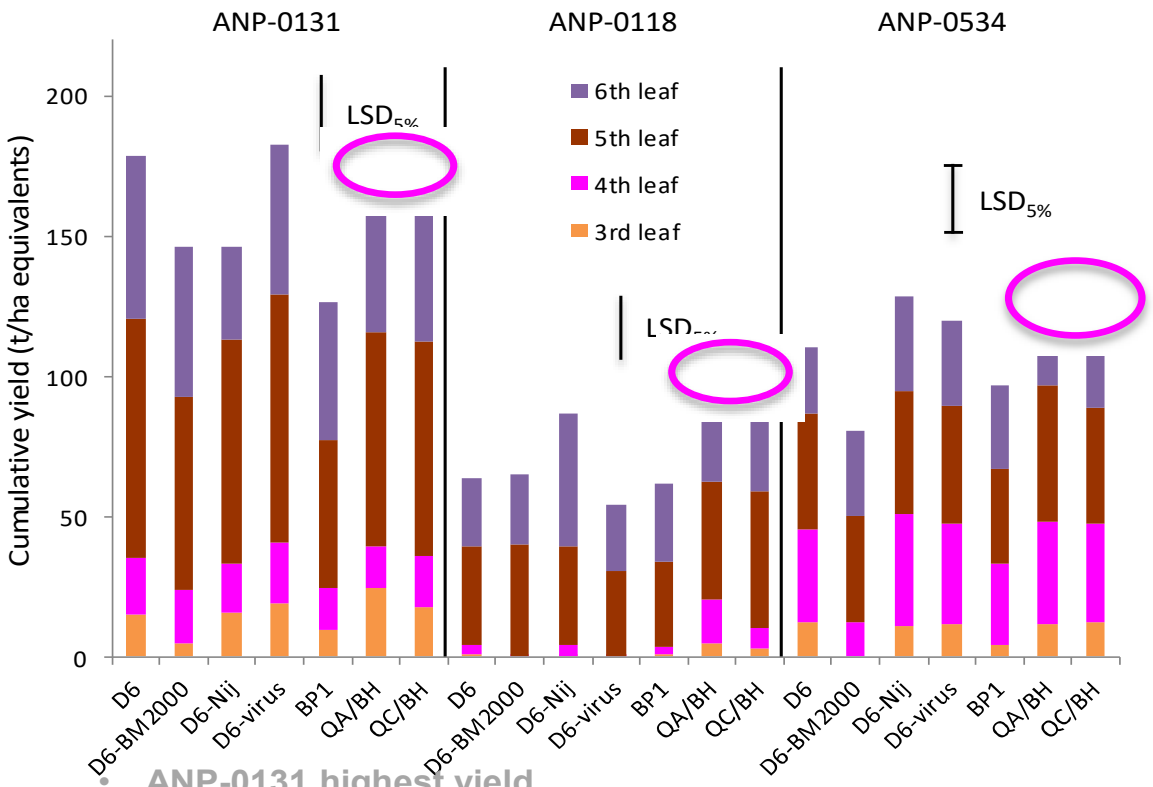
Mainly inline drip systems are used but also overhead systems to cool the fruit down to stop sunburn.

Pears are mainly grown on heavy grey clay soils with a relatively low organic matter.



Results – Rootstock Experiment

Cumulative yield (3rd – 6th leaf after planting nursery trees)



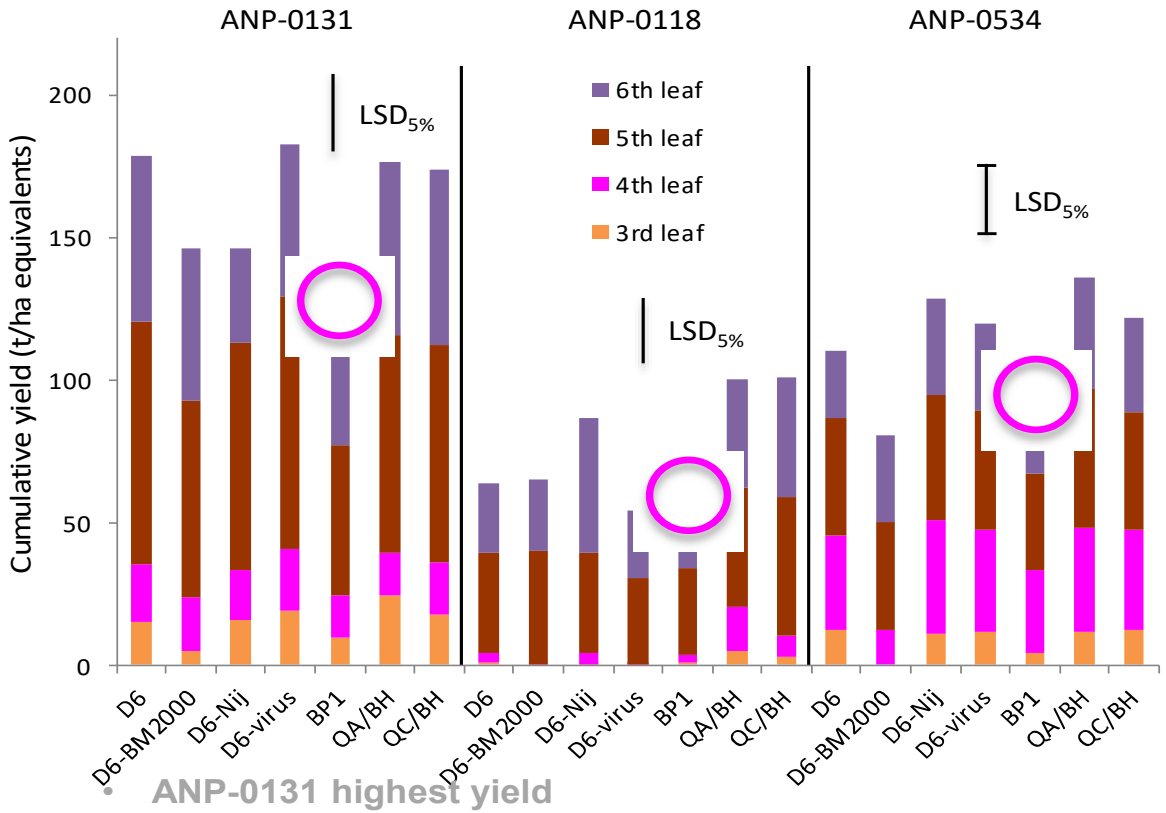
- ANP-0131 highest yield
- **Quince rootstocks tended to have the highest yield**

The most planted rootstock in Australia is Quince A.

Quince rootstocks have the highest yields.

Results – Rootstock Experiment

Cumulative yield (3rd – 6th leaf after planting nursery trees)



- ANP-0131 highest yield
- Quince rootstocks tended to have the highest yield
- **BP1 tended to have the lowest yield**

In Australia we are rapidly changing to orchard systems that produce high yields within five years of planting and sustain consistent first-grade quality fruit.

The biggest aim is to reduce labour inputs through creating systems suitable to mechanisation.

From this:

Old Packham tree.

To this

Cordon system


Two dimensional system
21

Nothing new:

Packhams, planted 25 years ago.

Australia has problems with not enough winter chill.

This can cause a flowering period of up to 4 weeks and this can result in the pollinators not flowering in the same time as the main variety.

Australia has over 1,700 species of native bees. They come in a startling array of colours and range from 2 to 26 mm in size

Australia is the only country that doesn't have the Varroa mite

3.5 m x 1.2 m


4 leader trees

The same block in spring

Planted 1.20m x 2.50m

The leaders are 40cm apart

13300 leaders

What are we doing different in Australia?

Breaking and scoring

Scoring

Breaking

4 leader trees

Planted 4m x 1m

The distance between the leaders is 50 cm.

10,000 leaders/ha

6 leader trees

Planted 1.20m x 3.50m

The distance between the leaders 40 cm

14.280 leaders per/ha

To get an earlier production you can use the following tools:

-Breaking
-Scoring
-Root pruning
-Stem incision
-Click pruning
-Apply Gibberellic Acid (GA) for fruit-set

Incision

Root pruning

To get the tree to crop we sometimes use all the tools.

Like we did on this block.

- We don’t have Psylla Pyri or fire-blight but we have mealybugs.

The objectives of soil fertility management in fruit production are to balance nutrient, support biological activity and increase soil organic matter.

IPM.

Providing vegetation in the orchards in the form of cover crops can increase the abundance of natural enemies.

For some this is due to the provision of resources such as pollen and nectar, but for others the shelter provided will be more important.

Cover crops have shown to increase the abundances of a wide range of natural enemies and even to increase predators and parasitism of pests.

Integrated pest management (IPM)is a philosophy of pest control founded on the principles of ecology.

In practice, it involves using several control tactics based on a knowledge of the crop, pests and associated natural enemies to avoid crop loss and minimize harmful effects on the environment.

Most growers in Australia use IPM

Mowing every 2nd row.

Even when selective insecticides that are relatively harmless to these beneficial insects are used, commercial apple and pear orchards can be inhospitable places for them because of a lack of food (nectar, pollen or alternative prey) and shelter.

To address this problem mow, after flowering, every 2nd row and mow only ones in 2 to 4 weeks.

Let the clover and the grasses flower so that they produce nectar and pollen to attract beneficial insects, which include lacewings, ladybirds, hover flies and wasp parasitoids.

Native shrubs and groundcovers.

Cover crops

Probably you don’t see these in the Italian orchards.

They can cause a lot of damage.


Duade Paton
www.duadepaton.com

- Netting the orchard is the only way to protect the crop.

- Birds and flying foxes are protected species in Australia.

Conclusion:

- A pear tree doesn’t know if it grows in Australia or Europe.
- A few different pests, totally different climates
- In general we have the same problems and are applying more or less the same orchard practices, e.g. click pruning.
- A lot of growers are looking forward to introduce robots into their orchards.

Precision farming is a hot topic at the moment.

Precision farming, satellite farming or site specific crop management is a farming management concept based on observing, measuring and responding to inter and intra-field variability in crops.

Precision farming relies upon specialized equipment, software and IT services.

THANK YOU FOR YOUR ATTENTION.

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