

Some recovery from chill in avocado orchards

Story and photographs by Lesley Board

Consultant Lindsay Heard says Bay of Plenty avocado growers and their trees are a resilient lot. He expects a bumper fruit set in the spring of 2011 although fruit set for the coming season is variable. Some growers are expecting average to good crops but unfortunately this is not the general trend.

"Many trees were affected by the extremely low temperatures experienced last winter – it was one of the coldest on record for 30 years. Some orchards that were carrying huge crops had trees drop two-thirds of their fruit because of those winter frosts. But we are now seeing promising signs of recovery and in recent weeks growers are saying there is much more fruit high up in the canopy of those frost-affected trees than they first thought. I have seen average to good fruit set on orchards at high altitudes compared to some low altitude blocks."

Good recovery from flower loss

Even younger trees that had the flowers burned off to a height of two metres have recovered well and he's confident they will be back in production by 2011.

Lindsay points out that apart from the cold winter of 2009, the Bay has also experienced two to three dry seasons in a row. He believes the brown "strings" found in some fruit this season were caused by lack of water. But he has no explanation for the areas of hard flesh found around the stones of other avocados.

Lindsay visits orchards from Katikati to Matara and says that moves by some growers to plant new pollinators, install irrigation and intervene by way of canopy management are beginning to pay off in terms of breaking the cycle of biennial cropping.



From left:

Contractors erect artificial shelter to provide an avocado block with better wind protection.

A pollinator, closely trimmed and taking up little space.

"I am starting to see a marked difference between those orchards that are irrigated and those that rely on rainfall. Where growers have moved to plant more pollinators, particularly a combination of Bacon, Zutano and Ettinger, I am seeing big crops on trees that are one or two out from the pollinators."

While this would suggest that a large amount of orchard space would need to be given over to pollinators, he says that's not the case.

"Pollinators are not a wide growing tree; they don't actually take up much space and we have side pruned lower branches to maintain maximum light on Hass trees. I am also seeing some excellent results where Hass trees have been grafted over to pollinators in April 2007."

The importance of pollinators was demonstrated on one orchard that originally had just two Zutano trees for the entire property. Two years ago 70% of the crop came from trees in close proximity to those two pollinators. Now the same orchard has many more pollinators and in the current "down" season it is carrying one of the best crops in the district.

Frost protection actions

Lindsay said some growers who had been badly hit by frost last winter were investigating the possibility of installing orchard burners while others had adapted their irrigation systems to act as sprinklers. There was good evidence that under-tree sprinklers provided a good level of frost protection in some orchards.

"It is a good idea to bare pole shelter up to a metre high to let the cold air out – this allows it to drain away like water. I have seen frost trapped in blocks by thick shelter and building back up to cover half the block. Some growers are also applying slightly higher rates of copper going into winter because research shows that it can be effective against light frosts, but you do need multiple applications."

Where orchards have only set what Lindsay calls a "nuisance crop" – not enough fruit to warrant the cost of spraying, many growers have opted to spend the money instead on bringing the height of trees down and improving overall structure.

"For those orchards it is okay not to spray or maybe just to apply one insecticide going into winter to keep the levels down, then another one pre-flowering – after all, you are spraying to protect the fruit, not the tree. My advice is to keep the boron on, however, and apply a light rate of fertiliser. I don't want to see trees run down their reserves for next season's potentially high flowering "on year".

"If we do see a very heavy flowering next year then it might be a good time for growers who are keen to break a biennial bearing cycle to look at flower pruning. It is already working well for some growers but it definitely needs to be done in early spring."



Lindsay Heard shows a fruit set close to pollinators on an Athenree orchard.

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