



## Overhead Netting Does the Job in Hawke's Bay Orchards

Derek and Carol Barnes operate Foothill Orchard, a mixed orchard in the Roys Hill region of Hawke's Bay growing peaches, nectarines, plums, apples and kiwifruit. Orchardists for seven years, Derek and Carol have recently created some interest with an innovative method of providing shelter for their 2.4 hectares of GOLD Kiwifruit.

After planting the block in 2000 they found it was impossible to achieve a full canopy across the total kiwifruit orchard due to the westerly wind dumping onto the block and damaging canes. They began to look seriously at crop protection in 2004 along with nearby kiwifruit grower John Ericksen.

To gather information on methods to protect their orchard, Derek and Carol travelled to Queensland where, in Stanthorpe, an area producing fruit and grapes on the Queensland/New South Wales border, they saw large areas of overhead hail netting in operation. Net-pro, a company operated by two New Zealanders, supply and install crop protection netting and are based in Stanthorpe.

Stanthorpe experiences several hailstorms in most years. The netting has not only given growers their hail protection, but has proved to have other benefits. For example, cherries tend to ripen earlier under red cloth and apples are protected from sunburn under grey cloth. Salad vegetables are grown very successfully through the winter under red. While red cloth tends to enhance maturity, blue seems to delay ripening. Having talked to enthusiastic growers in the region both Derek and John were keen to try it themselves.

Derek has used red 12mm netting on half a hectare of his GOLD Kiwifruit orchard and white 12mm netting on a further two hectares. John has covered his entire 18ha of GOLD with 21mm net. Both orchards were covered in the winter of 2005.

At Foothill, on the side exposed to the prevailing wind, the netting slopes to the ground and the SE side is sloped to canopy height. The remaining sides are open but with shelter belts. The netting is suspended at five metres above ground level. The internal support poles to carry the cables that hold the Net-pro netting are steel and the spacing is determined by the cloth width. (The 12mm stretches to 12 metres whereas Johns' 21mm net spans 21 metres)



Barnes Deflection Shelter

Both Derek and John have also found that the Net-pro cloth produces a microclimate under the netting with summer temperatures up to two degrees above the ambient temperature recorded at Foothill. Sunburn damage and plant stress due to weather shocks seem to have been eliminated. One unexpected benefit is that the wind machine at Foothill works much more effectively with the cover in place. The warm air is retained within the block with less 'leakage' of both warm air out and cold air in. Marking damage from wind rub has been virtually eliminated and the fruit can be carried to the end of the canes without fear.

Whilst the installed cost has not been cheap (approximately \$45,000 per hectare), Derek considers the advantages outweigh the costs and that achieving a high quality crop across his entire orchard will justify the financial outlay. (Larger mesh like that used at Ericksens' has a lower installed cost due to wider stretch enabling less poles and cable to be used).

This year, TZG was higher under the red at harvest. This spring, the plants under the red cloth are showing signs of less vegetative vigour with a similar crop loading to the white covered area.

When John and Derek started to investigate coverings they found much negative comment from some kiwifruit growers within New Zealand but they quickly determined that there had been some bad experiences with netted blocks of Hayward using black windbreak cloth, particularly noticeable was a lack of return bloom. With two flowerings under white and red cloth now past, they are now convinced the difference is black and white. ■



Red and white Net-pro cloth

