



**Ballance**  
**Farm Environment Awards®**  
*Promoting Sustainable Profitable Farming*

# 2011 NORTHLAND WINNERS

SUE AND SHANE CULHAM  
 'PURIPAK AVOCADOS'

## SUPREME AWARD WINNERS

An avocado orchard near Whangarei is the first horticultural enterprise in Northland to win a Supreme Award in the Ballance Farm Environment Awards, being the sixth year of the awards in the region.

Puripak Avocados in Glenbervie, west of Whangarei, is described by the judges as an excellent example of marrying the need for commercial development with preserving and improving the natural habitat.

It has successfully combined native and production plants under the one canopy.

Owners Sue and Shane Culham have balanced their passion for their land, its environment, orchard productivity, lifestyle and community, commented the award judges.

Sue worked part-time developing the orchard, which now has six-year-old avocado trees, and has been full-time on the orchard for the past year, with some employed help.

"Sue's personal development through horticultural education and her meticulous record keeping help make this a stand-out property," the judges said.

Sue has developed extraordinary record keeping, including monitoring of fruit pest and size, irrigation using tensiometers, daily readings with an electronic weather station, annual

irrigation water tests, harvest data, nutrient applications, market and packhouse analysis and input costs.

Shane runs an engineering company in Whangarei, employing 150 staff members, and they both have community roles and numerous sponsorships.



From the first planting of 4ha in Hass avocado trees in 2004 at 8m by 8m spacing, the Culhams have used consultants to ensure the development of the lifestyle property as a viable and sustainable stand-alone commercial enterprise.

A meticulously cared for orchard has created uniformity in tree size and production across the entire orchard with a zero mortality rate which is extremely rare in orchards throughout the industry, especially in the Whangarei district.

Production has increased from 0.5 tonne/ha in 2007/08 to 12 tonne/ha in 2010/11, which is well ahead of the industry average of 7 tonnes/ha at eight years. The export pack-out in the latest season was 86% and the fruit sizes are better than the mid-north average.



A grandfather puriri occupies a prime position at Puripak Avocados, Glenbervie.

National Partners

Regional Partner





## SUE AND SHANE CULHAM 'PURIPAK AVOCADOS'

### BALLANCE AGRI-NUTRIENTS HABITAT IMPROVEMENT AWARD

Puripak Avocado orchard was established in late 2004 with 550 trees on 4ha after clearing of the thousands of rocks and boulders that are typical of the Glenbervie area and the undergrowth left after bush clearance, while accentuating the native bush and the magnificent puriri trees that grace the property.

One old puriri had been struck by lightning and was saved within the avocado orchard by an arboriculturist and now is an outstanding feature of the property.

Other puriri and taraire have been lift-pruned to allow the avocado orchard to grow up around them.

The native bush areas on the property have been carefully restored and regeneration is evident. Most of these have QEII covenants over them.

Certain features of the property have significant historical meaning to the Glenbervie area, such as the large puriri trees and a 100-year-old stone bridge, which Shane and Sue have retained.

The bush areas and the impressive scattering of historic puriri trees are used as a scenic feature within the property rather than removing them to maximize canopy area for the orchard. Vertebrate pest control is exemplary, according to the judges. Both Shane and Sue have an excellent understanding of the movement patterns of the vertebrate pests, possum and stoats.

Strategic placement of traps and bait stations as well as possum chutes has significantly reduced the pest populations



to an extent that native bird life has returned to the native bush area.

Sue and Shane are now accredited cyanide operators allowing them to use this bait on possums which is proving to be extremely effective and allows for an immediate tally of mortality.

The volcanic soil is ideally suited to the production and health of avocado. A soil test is taken annually with the property consultant producing a recommended fertiliser application programme, which is followed exactly.

The judges commented that there was no visible evidence of compaction and the rolling topography creates natural water flow reducing risk of phytophthora.

Puripak has a consented water bore with a daily take of 50 cubic metres for irrigating the avocado trees. The 14.3ha property also has a river boundary and a stream. Shane has a plan to make the river side an indigenous tree park.



### JUDGES COMMENTS

- *Conscious decision to leave native trees amongst orchard.*
- *Knowledge and licenses to achieve effective pest control.*
- *Extensive monitoring to minimise chemical application.*
- *QE II covenants on bush areas.*

**Above:** A grove of big old puriris left by the Culhams to live out their days in the middle of Puripak Avocados.

## SUE AND SHANE CULHAM 'PURIPAK AVOCADOS'

### MASSEY UNIVERSITY DISCOVERY AWARD



Puripak Avocados at Glenbervie has been accepted into a trial of new a variety of avocado with 200+ trees scheduled to be planted September/October 2011 on 2ha prepared for the purpose.

The variety is an early cropper which will have significant benefits for orchard gate return and marketing. The variety currently being grown in South Africa is reported to be producing one-and-a-half to twice the current Hass yields. Results such as this will significantly improve the NZ industry.

Puripak Avocados is also an Avocado Industry Council focus orchard for the Whangarei district for pruning trials.

For this purpose the Culhams are prepared to forego high production on up to 10 trees for a number of seasons.

Both of these trials, if successful, will see Puripak Avocados

a minimum of four years ahead of the remainder of the NZ avocado industry for production and pruning techniques.

Using the thorough record keeping, Puripak Avocados has the opportunity to self trial the production with varying tree management techniques to create the optimal and sustainable crop loading of high value fruit given the economic and time inputs to achieve that result.

This can be by way of husbandry, such as using varying combinations of tree pruning, and fruit and flower thinning, using natural nutrients and fertilizers, and using reflective mulch to increase the light and heat in the lower canopy to increase fruit set in the lower canopy.

Puripak Avocados was one of the first avocado orchards in Northland to become NZGAP compliant, a third party auditable food safety programme at grower level which covers all aspects of horticultural operation, such as traceability, food safety, health and safety, quality assurance, chemical application and storage, management practices and employment.

Sue Culham is an AvoGreen-accredited owner/operator allowing her to monitor the orchard for insect pests under the industry monitoring programme and she is also a Growsafe-accredited applicator to apply the mainly soft sprays as the family lives within the working environment.

She has completed Level 4 Certificate in Commercial Fruit Production Management, a course designed to give an understanding of orchard and plant management and is continuing her education with an extramural degree in horticulture from Massey University.



### JUDGES COMMENTS

- Rapid uptake of new knowledge.
- Keen interest in being part of industry trials.
- Meticulous record-keeping to enable constant learning.
- Early implementation of new food safety system.

**Above:** The judges commented that Puripak Avocados was a beautifully kept orchard.

PAUL AND DIANE BAKER, AND TREVOR AND LEONIE BEDGGOOD  
'P & D FARMS' AND 'TE TORU FARMS LTD'

**BEEF + LAMB NEW ZEALAND LIVESTOCK FARM AWARD**

A leasehold farm carrying breeding sheep and finishing lambs and cattle provides a wonderful model for new entrants to sheep and beef farming and for land owners to semi-retire or pursue other interests.



The Bedggoods lease the 265ha (218ha effective) property called Te Toru in the Bay of Islands to the Bakers, who are now in their second six-year lease period (two x 3 year terms).

The Bakers own and manage all of the stock and manage the development programme (including cropping and regrassing). Trevor Bedggood assists with the works programme, particularly fencing, and manages the forestry work.

The property is a mix of flat to rolling hills of volcanic soils, clay hill country and alluvial flats.

Paul and Diane run 1400 breeding ewes on split lambing, achieving 146% lambing and have increased the carrying capacity during their time there from 2400 to 4000 stock units.

They grow pasja as part of their regrassing programme, used for 2500 to 3500 store lambs bought in over summer, then finished over autumn/winter. Some 650 to 700 cattle are also finished each year.

Paul Baker is a stock agent and his impressive abilities are demonstrated in early lambing, supplemented with forward planning for lamb and cattle trading, killing space secured and store stock purchased at the right time.

“Paul enjoys sheep breeding and believes the sheep industry has a positive future. He knows the sheep trading business very well

and is prepared to recognise and adapt to industry changes,” said the judges.

“Paul and his staff members do an incredible job of grazing management. All the pastures have excellent density and good clover content. They focus strongly on not over or under grazing.

“Stock numbers have to be closely matched to grass growth as this farm can dry out quickly, as well as achieving a suitable sheep/cattle mix for the prevailing soil and pasture conditions.” The farm has a good record of trading profitability under the leasehold arrangement, and for the Bakers profitability is much more important than capital gain.

Trevor and Leonie continue to invest in improvements that facilitate stock management, both to optimise production and to ensure long term resource sustainability. They have historically removed from pastoral use any land that cannot be intensively grazed, instead growing timber or managing for ecosystem and soil conservation benefits.

The relationship between the lessees and owners is one of ongoing communication. Trevor sees the value in investing in infrastructure improvements and enjoys seeing the farm fertility and pasture quality improving. As owners the Bedggoods can stay in their home and focus on the work and community involvement they are keen to pursue.

The judges also commented that it is a beautifully presented property, very tidy, with well maintained fences, shelterbelts and woodlots, buildings and tracks, and clean and very productive pastures.



**JUDGES COMMENTS**

- Role model for leasing arrangements.
- Impressive trading profitability aided by stock trading skills.
- Excellent grazing management maintains superb pastures.
- Wise land use allocation according to soil and contour.

**Above:** Trevor Bedggood, left, and Paul Baker have a successful leasehold relationship.

## NEVILLE RULE

### LIC DAIRY FARM AWARD NORTHLAND REGIONAL COUNCIL WATER QUALITY ENHANCEMENT AWARD

Neville Rule has made an extraordinary personal and financial commitment to ensure that no effluent and storm water discharges occur from his dairy farm.



He has a massive seven-pond storage system on the 285ha (260ha effective) dairy farm at Waimate North in the Bay of Islands. It has been proven these ponds will cope with the incoming water during deluges common to Northland.

Treated effluent is spread over 80ha of the property, with close monitoring of pumps and travelling irrigators.

In case of power failure Neville has a back-up tractor pump to move liquids around in the pond and irrigation system.

Neville has not sought a discharge to water consent, so that he and his staff members must make absolutely sure there are no breaches by way of leaks or ponding from the self-contained farm system.

Concerned with the image of the dairy industry, Neville suggests the first step to dealing with effluent problems is to not produce it in the first place, for example by maximising the time that cows spend on grass.

This is a medium input dairy system where animals are well fed but not pushed, Neville believing that more is not always better. He therefore has leeway in extreme weather events.

As well as planting many trees to enhance the local environment, Neville is a strong supporter of the Waimate North Landcare Trust. Another example of his community care is setting up

recycling bins at his sheds which also contain a state of the art fuel/chemical storage facility.

All streams on the property have been fenced off with generous margins. Considerable effort has gone into establishing natives to increase bird life and Neville is aesthetically sensitive to how his property looks from the road and to his neighbours.

The Waimate North farm has flexible back-up from 1450ha of non-dairy land, which runs 1800 sheep, grows maize and silage and grows out the young dairy stock. Neville also leases a small farm at Pakaraka which produces 35,000kg milk solids.

The home farm runs two herds of 300 cows, one spring calving and the other autumn-calving for winter milk production.

Milk production is around 250,000kg annually, which is 961kg/ha averaged over three years, excluding drought, or 416kg/cow average, plus milk for 700 calves. Productivity dropped by only 6% during the 2009-10 drought.

Cows and young stock are grazed off and the judges commented they could find little evidence of pugging or damage to soil structure.

The judges commented: "The good profitability of the farm stems from Neville's amazing organisational skills, backed up by a history of servicing debt by extremely long hours of work".

"Neville has an easy and inclusive relationship with his staff members who are treated like an extended family and he does everything he expects staff to do. Staff are assisted with up-skilling and provided with quality homes."



### JUDGES COMMENTS

- Excellent pastures and well fed cows.
- Skilled grazing management with little pugging damage.
- Easy and inclusive relationship with staff.
- Profitability stems from amazing organisational skills.
- All streams fenced off with generous planted margins.
- Committed to nil discharge effluent system.
- State of the art fuel/chemical storage facility.
- Nitrogen leaching minimised.

## MURRAY AND MARCELLE DOUGLAS DOUGLAS FARMS

### PGG WRIGHTSON LAND AND LIFE AWARD

Three herds totalling 1000 cows through two farm dairies on what were four farms, plus another leased farm for 400 cows, all take a wealth of planning.

Murray and Marcelle Douglas, Titoki, have three sons in their 20s, Ian, Tim and Roger, who have active roles and are keen to go farming, so a structured succession plan is in place. The family have involved a consultant and the plan is likely to include further expansion.

The Douglas farming business presently supports 10 families in addition to Murray and Marcelle, all working in a high-input dairying business producing 1000kg/ha milk solids annually.

The original family farm has been expanded with the purchase of three adjoining properties to make a total of 354ha effective. Another 40ha at nearby Poroti is expected to become Murray and Marcelle's step back project, with a new home and some time for other activities.

The leased property at Matarau was taken on this season and is expected to do 150,000kg MS. It is a separate Fonterra supply entity involving the three sons.

“Rapid expansion and investment in significant infrastructure has been the focus of the Douglas farm business over the last four years, establishing the framework for a great farming business,” the judges commented. There is still considerable potential in the business as four previously separate properties are brought together into one cohesive unit.

Strategic planning is structured around four key areas – people, environment, animals and finance.

Murray is a Nuffield Scholar from 1997 and has been a Fonterra Shareholders Councillor since formation, now serving on the Dairying and Environment committee.

Since first entering the Ballance Farm Environment Awards four years ago the Douglas's have acquired more land, invested in farm infrastructure and overhauled staff management practises. Murray believes in making “the right thing the easy thing” and protecting the dairy industry's “license to farm”.

The farm works carried out over the past four years include a 54-bale rotary platform, two Herd Homes, a 70m by 30m feed pad, four-pond effluent systems, races, fencing and water supply.

The effluent ponds provide for 150-200 days storage, so that effluent only needs to be irrigated when conditions are suitable. It is spread over 23% of the dairy area and the aim is to get this up to 30%.

The enlarged property contains an 18ha lake which provides water to irrigation over 100ha. A small hydro-electric power scheme is also planned, using water from the dam and generating about 20% of the farm's electricity requirements. The turbine has already been purchased and the project is being built by son Tim.

Significant areas of native bush have been fenced and 15ha is under a QE II covenant. The area around the lake has been planted with additional native trees by a project involving the local primary school.

Murray and Marcelle put considerable emphasis on staff management practices. Staff protocols cover input for individual management areas such as water supply and effluent. Expansion into areas like calf rearing will involve updating on a regular basis.



### JUDGES COMMENTS

- *People-friendly dairy enterprise.*
- *Proactive succession planning and staff empowerment.*
- *History of leadership in dairy industry and community.*
- *Focus on growing family entity on and off farm.*

**Above:** Marcelle and Murray Douglas and their son Tim.

## MIKE CRUM (MANAGER), AND MIKE AND DARIEN ANGELO (OWNERS) 'TANEKAHA ORCHARD'

### HILL LABORATORIES HARVEST AWARD BALLANCE AGRI-NUTRIENTS NUTRIENT MANAGEMENT AWARD

Steadily improving green kiwifruit production and a conversion programme to gold kiwifruit and organic status for future sustainability are features of Tanekaha orchard, Maungatapere.

After Mike Crum began managing the property from 2005 the yields of kiwifruit have increased (6197/ha tray equivalents (TE) in 2007 to 7800/ha TE in 2010) and premiums have been gained for fruit dry matter, size and taste.

The steadily increasing gate returns and gross profits have offset increased costs in picking, labour and cartage, the Ballance Farm Environment Awards judges commented.

The orchard has 12.25 canopy ha of conventionally grown Hayward green kiwifruit, planted in 1986, which is producing around 100,000 trays on average, plus 0.4ha of GOLD 9 planted as a trial in 2009 and 1.5ha of G9 grafted over in 2010.

The new gold cultivar is expected to produce earlier fruit with a significantly higher value than Hayward green. Hayward green production potential is thought to be 10,000/ha TEs in Northland and Tanekaha has an above-average production for Northland equivalent to the NZ average.

Both the owner and manager have a shared passion for sustainable production and are moving towards organic status with the gold, which carries a \$2/tray premium. Tanekaha has been selected as a focus orchard for trials including bud-burst, pollination, the use of strings and intensive monitoring.

These results show Tanekaha to be among the best focus orchards if Kiwistart payments for early fruit, not readily available in Northland, are taken into account.

The orchard uses minimal chemical weed control focusing more on mechanical or zero mowing using the grass sward to effectively control the fungi *Botrytis* sp. and *Sclerotinia* sp. with the Tanekaha orchard having the lowest mean petal

infection after seven days (0.3 %) of all the focus orchards used by Zespri.

Changes in plant nutrition have been aimed at the Whatatiri silt loam soil to improve the structure using cation balancing and adding anions when required. The Whatatiri soil is a weakly to moderately leached brown loam derived from Horeke basalt volcanics.

Regular soil testing is complemented with leaf analysis every three years and the expertise of Kinsey Agricultural Services, of Missouri, USA, in order to find any little deficiencies that could perhaps be rectified through fertiliser application.

Over five years the nutrient inputs have produced some notable changes with soil health now tending to be more like under the original forest canopy.

Remnants of the original volcanic broadleaf forest have been fenced to encourage regrowth of the puriri, taraire and kohekohe. Pest control encourages bird life and tree health.

"The overall health of Tanekaha orchard was excellent," said the judges. Generally there was minimal insect damage to leaves and most leaf roller damage was superficial.

No other fungus diseases were noted and importantly no sign of the vine killing bacteria *Pseudomonas syringae* pv *actinidiae*, (PSA).

Improvements have been made to minimise soil compaction, including the use of a hydraulic lifting trailer, resulting in 80% reduction in tractor use during harvest and zero fruit damage in the pack house.



### JUDGES COMMENTS

- Enthusiasm for what is going on in the soil.
- Extensive soil testing and leaf analysis.
- Understanding of soil chemical balance rectification.
- Aim to return soil health to original forest state.
- Focused on fruit quality to match markets.
- Chosen as focus orchard and for gold trials.
- Methodical pest monitoring to minimise chemical application.
- Owner and manager have common interest in sustainability.

## THE AWARDS

The Ballance Farm Environment Awards are designed to encourage farmers to support and adopt sustainable farming practices. The awards are now held in Northland, Waikato, Bay of Plenty, East Coast, Manawatu/Whanganui, Wellington, Canterbury, Southland and Otago.

This is their sixth year in the Northland region.

## THE AIM

The aim of the Ballance Farm Environment Awards is to encourage and support farmers to pursue good environmental practices. When farmers enter the awards, a team of judges visit the farm and discuss the entire farming operation. The awards are designed to be a positive experience for everyone, an exchange of information and ideas, and a chance for farmers to get information and advice from the various judging representatives.

## FIELD DAY

The field day will be held at the 2011 Supreme Winners property.

### Shane & Sue Culham

**When:** Thursday 14th of April

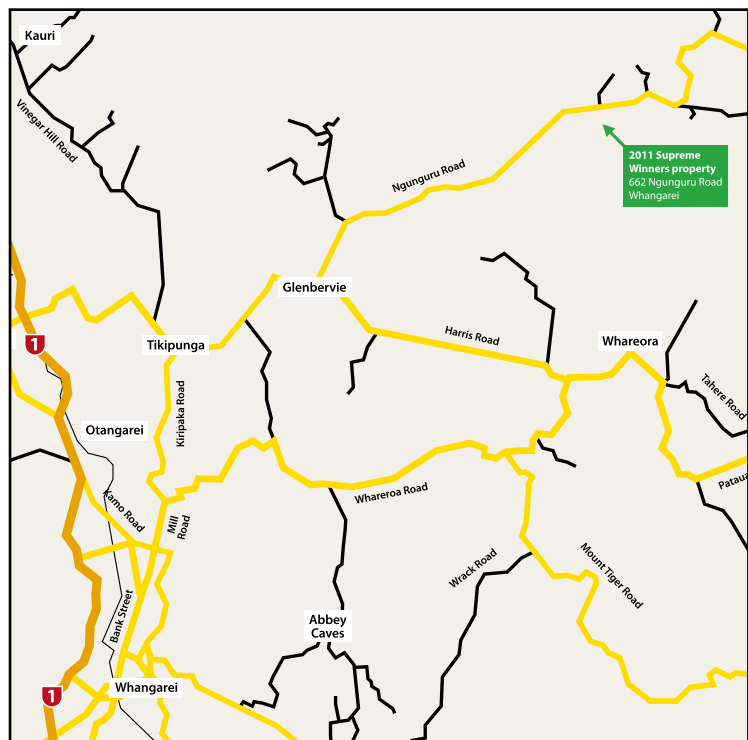
**Where:** 662 Ngunguru Road  
Whangarei

**For details, contact:** Stephanie Gordon  
181 Rosyth Road  
RD2, Waipu 0582

**Phone** (09) 432 0037

**Mobile** 021 451 501

**Email** northland@bfea.org.nz



FOR MORE INFORMATION, VISIT:

[www.bfea.org.nz](http://www.bfea.org.nz)

National Partners

Regional Partner