



# Maintaining milk quality over summer

The importance of using alkali detergent sanitiser regularly over summer months should never be underestimated, says FiL National Sales Manager Trevor Gulliver.

As the mercury rises from December to March it's open season on grades, especially thermodurics, unless you keep a close eye on hygiene in the farm dairy.

The importance of using an alkali detergent sanitiser regularly over summer months should never be underestimated, says FiL National Sales Manager Trevor Gulliver.

The former Matamata dairy farmer and top FiL area manager warns that as summer heat kicks in, the

potential for grading problems, particularly thermoduric, increases.

"This is mainly due to the fact that rubberware is starting to get a bit tired and hard protein is beginning to establish itself in the milk lines, receiving cans and the bulk milk silo. Protein deposits in the silo will show up as a bluish rainbow colour."

Trevor says it's important when inspecting the silo to make sure the surface area is dry because wet stainless steel will nearly always look clean.

"The best weapon against protein deposits is chlorine, which is an ingredient in FiL Quantum Powder."

**To avoid plant hygiene problems and ensure you maintain a high level of milk quality, alkali washes should be carried out at least twice a week.**

Chlorinated alkalis contain caustic soda and other alkali materials, chlorine, surfactants and water conditioners which remove fat and protein soils.

- Caustic ingredients remove fat (but it's got to be melted first - that's why you use hot water with alkali).

- Chlorine destroys protein deposits.

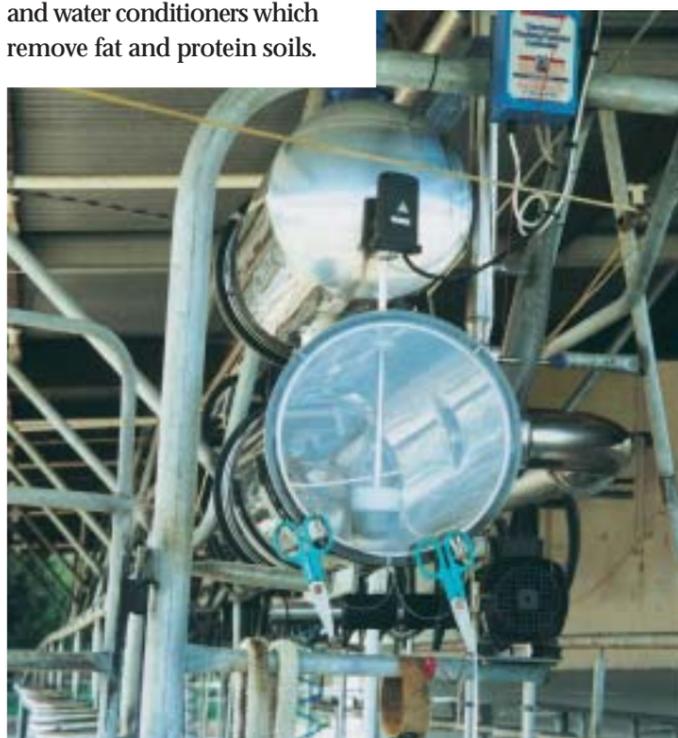
- Surfactants help dissolve and emulsify soils

- Water conditioners ensure consistent performance in mineralised water.

As well as cleaning, alkalis also sanitise. Chlorine is deadly to organic tissue so it kills bacteria very quickly.

The high pH of an alkali washing solution is also an excellent sanitiser. Finally, the hot water you use with your alkali is also an effective sanitiser – killing all bacteria except thermodurics.

**FiL markets Quantum Powder, a high strength, chlorinated, alkali detergent / sanitiser which, for many years has proved to be an outstanding product that performs extremely well in all water types.**



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# Thermo Psyche

By Bryan Eaton, Northland Area Manager

## To kill thermodurics, first you must think like one!

It's not that hard really, in fact they are a lot like us. If they have somewhere nice and warm to live and a ready supply of food, they grow (or divide in two).

Let's start with their home. To survive in the milking plant or silo they must be able to avoid being in contact with acid or alkaline washes. Therefore, they set up camp in perished or cracked rubberware, protein or fat deposits or surfaces that do not get adequate contact with wash water.

- Record when you replace all rubber in your milking plants and check what needs replacing on a regular basis. Often problems come from rubber that is overlooked in routine replacement. Start at the inflations and follow the milk path right through to the outlet of the silo. Any rubber or union that has milk contact should be replaced at the recommended intervals.
- Surfaces that do not clean well due to a design fault should be watched. In some dairies the milk line may cause problems with protein deposits building up if there are no flushing pulsators or if the pulsators are not effective in their operation.
- When checking milk lines for protein, open up the ends and remove the

receiving can covers, allowing the surfaces to dry (often moisture in the milk line can give the appearance of deposits). A torch placed in the receiving can shining down the milk line will help detect any deposits.

- Not a lot of the milk line can be seen in a rotary dairy but it's still worth checking as most deposits will form in the first one to two metres of the line and should be visible in most cases.
- The silo or vat is another surface that can build deposits or a film and should be checked regularly.

By now you've probably figured out the food source for thermoduric is fat and protein (see, I told you they are a lot like us) and any place where fat and protein can build up will offer them food and protection.

*As the name the suggests, the bacteria can survive high temperatures, so we control them very effectively with acid (below 2.5 pH) or alkaline (above 9.5 pH) washes. But the bacteria must be exposed to the wash water.*

This brings us to another major cause of thermoduric grades - the test bucket. Many farmers don't understand the risk of grading from thermoduric bacteria when using test buckets. The simple act of attaching the bucket hose to the milking plant can transfer bacteria from a dirty bucket hose straight into the milking plant. This occurs with surprising regularity.

- Be sure your test buckets are clean and the hose is cleaned thoroughly (with the hot plant wash water) after every use. Replace the hose at the start of each season (a new one, not the one you've been beating the cows with).
- Keep an eye or, even better, a nose on the rubber at all times. Make sure the nipples on the lid don't have sharp burrs or edges as this will rapidly cause deterioration in the hose.

Here are a few other areas that regularly cause problems:

- Inflations - splits, holes, worn.
- Blocked jettors - check them on a test bucket (minimum 3litres/min) or, when herd testing, leave the flasks on, put a wash through and check that jetter flow is even.
- Unions/seals - old or ill fitting. Pay

close attention to any that flex or turn. Cone seals around the old diaphragm-type milk lift can be tricky. Check them regularly and make sure they are fitted well.

- Plate coolers - grass or hair trapping fat, old seals.
- Diaphragms - old or cracked.
- Milk filters - some of these don't clean at the top of the filter. They tend to be the type that has a screw on top. By unscrewing the top while the wash water is going through the problem is usually solved. Be very careful you allow only a slight release of water as there are obvious safety risks involving hot wash water.

Try to get into a routine of doing a shed check at the start of each month. Watch your problem areas carefully and maintain your rubberware.

If you are new to the dairy, or have any problems or queries, give you local FIL area manager a call because we have a lot of experience in problem solving. Even better, get us in before you have a problem. We can go over the plant with you, pointing out any potential problems or have staff training sessions. These sessions can be very helpful in larger operations where more than one person is responsible for plant hygiene.

Prevention is better than cure. For one thing it's usually cheaper, less stressful and the thermoduric grade calls I get always seem to come when I'm just about to sit down at the beach!

# STOP

**BACTERIA BUILD-UP & PREVENT PROBLEM GRADES**




The FIL Quantum range is cleaning up bigtime in farm dairies nationwide. Our Quantum Blue and Gold acid detergents and Quantum XL and Quantum Powder alkaline detergent sanitisers are fast becoming the acknowledged leaders in the NZ Dairy Industry, achieving outstanding cleaning results. With its variable foam and temperature profiles, the Quantum Range caters for ALL farm dairy needs. FIL Quantum is tomorrow's cleaning technology, today!



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# Diamond V XP trial looks at productivity and fertility

*FIL is undertaking the first comprehensive pasture-based trial of Diamond V XP, a fermentation fortified yeast culture.*

Yeast cultures nurture healthy populations of rumen microflora. Flourishing microbial populations in the rumen play a significant role in the digestion of feed because they convert ration ingredients to nutrients cows can readily absorb and use for growth, maintenance, production and reproduction.

Peter and Vivienne Kay's 200ha farm near Te Awamutu is hosting the trial being conducted by Te Awamutu vet Richard Tiddy of Dairy Production Systems.

Fifty percent of farm manager Cam Kay's herd of 680 Friesians and crosses are being used in the season-long trial which began at the end of August. Four of five groups of 70 cows each are drenched daily with the following components in 100gm doses (the fifth is an untreated control group):

- A commercial ionophore
- New Diamond V XP in drenchable form
- Diamond V XP and the ionophore
- Original Diamond V XP

The drench is administered by a part time worker employed as a part of the trial, using a specially made drench gun with three triggers which allows him to administer the doses from one apparatus.

All 350 cows were weighed at the start of the trial and will be weighed four more times this season. There will also be monthly herd tests.

Tiddy says the aim of the trial is to



Cam Kay with Diamond V XP sample bottles

compare productivity, fertility and weight gain as a result of using Diamond V XP.

"We will try and measure production responses compared to the untreated herd and those being given the ionophore all as part of the pasture-based system."

He says observational trials last season saw a lift of 1.5 to 2 litres of milk per cow per day but there have been reported increases of 3 litres in high performing cows.

**Tiddy is looking for a production increase of 30kg MS/cow or 21,000kg MS over the Kay's entire herd and at a \$3.90 payout total extra income would**

**be \$84,000 over the season. He also hopes for an improvement of 0.5 to 1 condition score.**

"But there has never been a major trial in a New Zealand herd and the response could be even better than this. That's what we want to find out when feed quality drops off and the Diamond V XP helps break down the fibre in the rumen more effectively," he said.

FIL General Manager Gavin Cherie says Diamond V XP should result in healthier cows, more milk and increased milksolids. "For every dollar spent on Diamond V XP we expect \$2 income based on a \$3.50 payout."

The trial is being funded by American company Diamond V

mills with logistical support from FiL. Cam Kay says he and his family agreed to take part in the trial because he was interested to see how much extra production Diamond V XP would give.

"I also wanted to see how a scientific trial works get more information back on my cows."

"It's been just over two months since we started the trial and I haven't noticed any changes yet. However, we haven't had the results back from the first weighing and I think we'll see any improvements in January after another weighing and Richard Tiddy has analysed the test results."



The Kays' Farm Dairy. Inset: Cam with ear tags used on the trial herds





# Been There and Done That make farmers' lives easier



## Done That

FiL has made its non-toxic, easy to clean up spray marker dye Done That even better with a new formulation.

Done That has been a part of the agricultural scene for several years, helping dairy farmers and small block holders with their weed control programmes.

But now there's a new formula Done That which is not only non-poisonous, non-toxic and non-acidic but is also compatible with every herbicide available in New Zealand.

*This means Done That doesn't affect the power of the herbicide and there won't be any "gunking" or coagulation in your spray system.*

Done That is a very vivid blue which is very visible and shows up well on almost all plants and weeds. It is specifically aimed at the market for blue dyes, and is suitable for users with most forms of colour blindness. Unlike many other marker dyes Done That cleans up easily. Just wash out your knapsack and the rest of the spray system with water and it will be clean and ready for the next time.

### Directions for use:

- Add Done That to the water on the spray tank and mix well before adding the herbicide.
- Use 100mls of Done That per 100 litres of the diluted spray mix.
- When using a knapsack sprayer, mix 20ml of Done That to 15 litres of water.
- Done That marker dye is available in 500ml, five litre and 20 litre packs.



## Been There

Been There has been an integral part of the New Zealand spray marker dye market for about seven years and from its launch has been a market leader.

When it was introduced by FiL, the red spray marker dye quickly became a best seller and is now the leading brand available in New Zealand.

*Vivid red Been There is highly visible on all sprayed plants and weeds and is an important part of New Zealand agriculture scene because it can be mixed with every herbicide available in New Zealand and won't cause mixing or clogging problems in the spray tank or pumps.*

Been There marker dye has a neutral pH and is not acidic. It is available in 1, 5 and 20 litre packs.

### Directions for use:

- Add Been There marker dye to water in the spray tank and mix well before adding herbicide.
- Use 50ml of Been There to 100 litres of the diluted spray mix.
- When using a knapsack sprayer mix 10ml of Been There to 15 litres of water.



*Easy to see you've Done That*

## Spray contractor insists on Been There

*Golden Bay spray contractor Roger Broadhurst, a former noxious plants officer with the old county council, has been in the weed control game for decades and knows a good marker dye when he sees one.*

That's why he chooses FiL's Been There when he sprays gorse and Onehunga weed in public areas and motor camps.

"The clients like to see where we've been and with inexperienced staff it makes their job a lot easier," he said. "I wouldn't spray without it."

Roger set up as Golden Bay's only spray contractor 10 years ago and at the peak of the season has four staff employed. He has 240 clients and says this includes every farmer in the district.

"They all have their own spraying gear but chose to use me because they don't have time to mess around."

In winter he uses Been There when spraying gorse and other brush weeds then in spring it's Been There when spraying Onehunga weed and Been There

when spraying maize. Roger says he has difficulty seeing blue sprays so vivid red Been There is ideal. He only uses Been There for jobs with a gun and hose and likes the way it doesn't coagulate and block the guns.

*"It's not a major expense because you don't need that much mixed in with the spray but I wouldn't spray without it because it guarantees the job is done properly."*



# Done That a hit at Environment Canterbury

*A large block of Canterbury high country has been saved from take over by an exotic heather thanks to FiL's Done That marker spray dye.*

Terry Broughton, Environment Canterbury biosecurity officer for the region from Temuka to the Waitaki River and inland to Mount Cook has written to FiL praising the company for the introduction of new formula Done That.

He says the new blue marker dye has been ideal for the massive job of eradicating 475ha of Bell Heather, a plant introduced to the area from the central North Island by a landowner in 1939 that has been taking over native species ever since.

"The new formulation has overcome for us, the problem of coagulation, we had. This coagulation problem required constant nozzle and filter changes, all of which left one rather 'blue' at day's end," Broughton said.

*"That problem, overcome by the new formulation, has made the job of spraying Bell Heather so much more pleasant. The new vivid-blue colour works well against the predominant pink flower of the heather."*

"Because of the altitude and distance we have to cover when dealing with Bell Heather, we are working with a very strong chemical mix and using low volume nozzles. That is what caused the coagulation with the former formulation. We now have trouble free application.

"Great to be able to do this Bell heather control work without a downside."

*Terry Broughton also says his staff find it more pleasant to work with a non-toxic marker dye because most of the herbicides they use are similarly non-toxic.*

Weed control staff use a very strong mix and the smallest crop nozzle which pushes out 1.2 litres/sec of spray. Because of the high concentration, a major problem has been coagulation and because water is scarce in the high country all gear had to be carried down the mountain at night for a complete wash

then taken back up the next morning.

With Done That, the gear is left at altitude each night and picked up again in the morning.

Environment Canterbury has spent about \$60,000 over the past four years in bringing the heather under control and the operation has been an outstanding success.



*Done That spray marker dye makes controlling weeds like ragwort and thistle so much easier.*

# We've got it covered

Whatever type of spray marker dye you need, FiL's got it covered.

**Been There:**

- Tracer dye for emulsions and solutions.
- Suitable for weedkillers and herbicides.
- No more gunk in the spray tank.
- pH neutral, not acidic.
- Available in 1, 5 and 20 litre packs.

**Done That:**

- Highly visible on plants.
- Suitable for most forms of colour-blindness.
- More economical than other "blue" dyes.
- Is not a poison or a DG.
- Cleans up easily in soap and water.
- Compatible with herbicides used in New Zealand.
- Available in 500ml, 5L, and 20L packs.

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# Summer management

## - a case of be prepared

*Dairy farmers should, as always, be preparing for a drier than normal summer.*

Below normal soil moisture levels and river flows are predicted for the east coasts of both islands, with lower river

flows also likely in the north of the North Island. Above normal soil moisture levels and river flows are likely in the west and south of the South Island.

The tropical cyclone season usually begins in November and their effects

usually improve pasture production in Northland and Bay of Plenty during the summer.

Dairy farmers should plan for the summer with two aims:

- 1) Extract as much as possible from the current season
- 2) Minimise damage to the following season's production

**A plan should include:**

- round length targets
- a list of culls and possible future culling dates
- dates for drying off heifers and cows where condition score falls below critical levels
- knowledge of how much supplement is available to commit to milking cows, how many days feeding and when it will be committed
- a desire to milk at least a proportion of the herd on for as long as possible in case it rains
- a no rain final drying off date. The date when you forget about this season and concentrate on the next.

Faced with low summer pasture growth rates the options in the plan are:

- Reduce feed demand - Cull up to 10% of the herd before Christmas or early in the New Year. Reducing herd size by 10% early in the summer has the potential to make as much extra feed available over the summer as having 10 extra bales of hay per cow or another paddock of crop. The extra feed will be converted to milk profitably by the remaining cows.
- Progressively dry off young, thin cows as feed supply diminishes.
- Progressively dry off high SCC cows.
- Identify and quit empty cows. Plan an early pregnancy test in February.
- Consider Once-A-Day milking when milk production drops below 0.9 kg MS/cow/day and bulk SCC is less than 200,000. This will keep a group of cows milking during a prolonged period of underfeeding and result in a 10-15% drop in MS production. Cows should lose 3-4% less liveweight than cows milked twice a day.
- Graze dry stock off milking area as much as possible.

**Improve feed supply**

Feed supply can be improved by taking action before it gets dry. Once it is dry there are few options for improving feed supply.

**1. Applying Nitrogen:**

During the 1990's the More Summer Milk project showed an average profit of \$55/ha from applying up to 80kg N/ha in late spring. This pushes additional feed into the summer period.

**2. Deferred Grazing:**

A productive, low cost method of utilising a late November/December surplus

**3. Slowing Rotation Length:**

More pasture growth will result in a dry summer by reducing the amount of times a paddock has to be grazed. Aim for a 30 day grazing interval during the driest months. The move from 20 days to 30 days should be made gradually during December while there is still feed on the farm.



**Table 1 - A supplementary feed plan for a 200 cow herd.**

Total supplements available	140 tonnes of pasture silage	x 250kg DM per tonne	35000 kg DM
	100 round bales hay	x 180kg DM per bale	18000 kg DM
			53000 kg DM
less supplement required for winter			none
less supplement required for 20 days after drought break	100 round bales of hay	180 cows (after culls)	18000 kg DM
		20 days	
Supplement available for milkers	140 tonnes of pasture silage	5kg DM/cow/day	35000kg DM

Table 1. Example: A supplementary feed plan for a 200 cow herd.

**Prepare a plan before feeding supplements and crop. The first day you think the cows are hungry is probably not the best day to start feeding them.**

- Determine what supplement and crop is available to feed to milking cows.
- Allow for three weeks supplement to be fed after the drought breaks (100kg DM/ cow).
- How many cows will the available supplement feed and for how many days?
- From previous experience determine a most likely drought break date.
- Commit available supplement so that you will not run out before the expected drought break.

**Table 1. Example: A supplementary feed plan for a 200 cow herd.**

*Calculation: How to convert available supplement to days and dates.*

\* 35,000kg DM at 5kg DM/cow/day = 7000 cows fed for one day - for 180 cows this will amount to 39 days of feeding (7000/180)

If March 20 is a most likely drought break date then the supplement can be committed 39 days before this date e.g. February 9.

Don't forget about young stock. They may require some supplement well before the milking cows do.



Extreme circumstances could determine supplement being required in January. On most farms it will pay to reduce cow numbers and run the pasture cover down during December and January before feeding supplements. Having supplement available for March and April gives you more options for drought recovery.

**Cow Condition:**

Past experience shows that the modern dairy cow has an extraordinary ability to keep milking on nothing more than a good drink of water and a fresh view each day. Plan the balance between exploiting this ability, milking on in case it rains, and running the cows down to such a low condition score that they fail to recover sufficient cow condition for next calving.

This balance can be achieved by determining dates beyond which groups of heifers or cows falling below critical condition scores should be dried off. See guidelines in Table 2.

Late February will be a critical time to look at drying off the lightest condition cows in your herd. It will take a week to dry them off so allow for this in determining critical dates.

Determine your own dates considering your own calving date and likely feed supply.

Past experience shows the importance of keeping cow condition above minimum levels. Regular monitoring and planning should allow you to act before cows become too thin.

*Article courtesy of Dexcel*

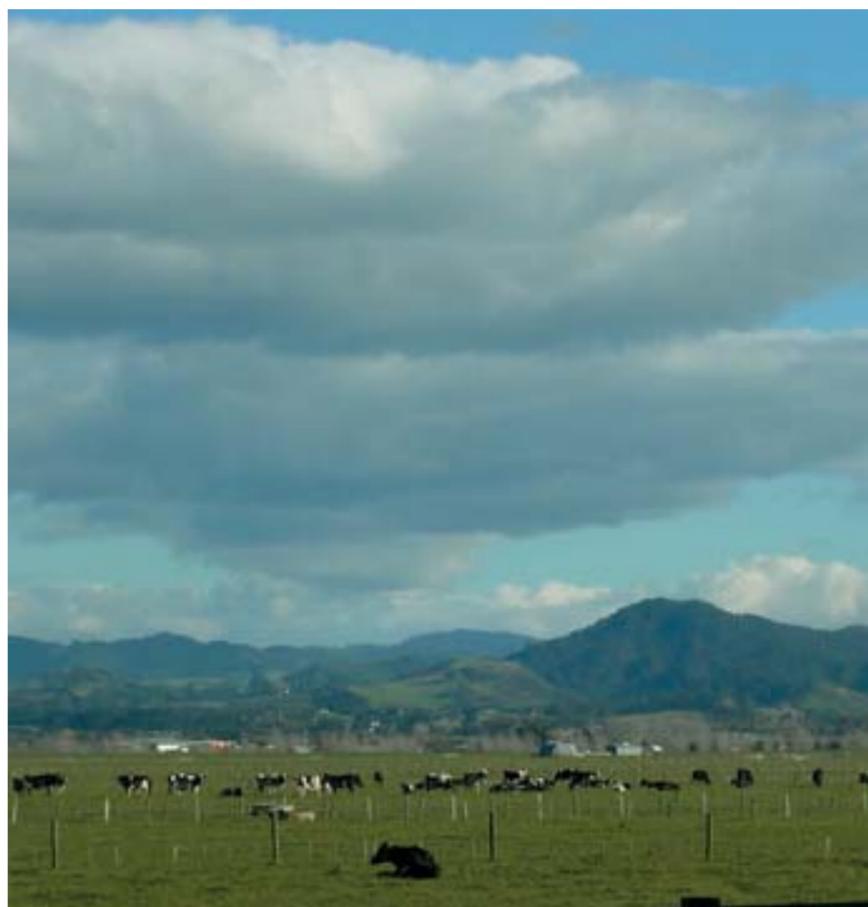


Table 2 - Drying Off Guide		
	Example Herd	Your herd
	Minimum Condition Score	Dates for your herd
	2 & 3 Year Heifers	Older Cows Heifers Cows
Calving July 15	5.5	5.0
June 15	5.5	5.0
May 20	5.0	4.5
May 1	4.5	4
April 10	4.0	3.5
March 20	3.5	3
March 1	3.0	<3

**Table 2 - Drying Off Guide: Determine minimum condition scores for heifers and cows in milk**

# The many faces of **FIL**

## Gavin's back thanks to surgery

*There are times when Gavin Dunn is thankful just to be able to get up and go to work in the morning.*

The FiL Rotorua/Reporoa/South Waikato Area Manager had suffered years of back pain and at the end of 2002 it got so bad he was admitted to hospital where an MRI scan showed a tumour on the spine.

Specialists told him depending where the tumour was located his chances of a full recovery were either



Gavin – Putting his back to good use

excellent or difficult. The other variable was whether it was cancerous or benign.

Two days after a five-hour operation the former motorcyclist who loves boating and fishing was on his feet and pain free for the first time in years.

A couple of weeks later and he was back on the road relishing the chance he had been given to continue with his job servicing dairy farmers in the Central North Island.

“Things had got so bad that when farmers called me out to help solve a problem I would lie in the ute and have Lisa (his wife) take me out to the property. I’d ask the farmer questions then tell him what to do to correct things.”

While he was in bed, Gavin drew up a list of clients and started ringing them to keep them up with developments.

“My clients were fantastic. Some rang me up even when I was in hospital to see if I was okay. I really owe them a lot for their loyalty,” he said.

Gavin joined FiL in 1995. He was brought up on a dairy farm near Rotorua and had 14 years on-farm experience, including time as a sharemilker. He saw

a change to selling FiL products as an opportunity to put his knowledge to good use.

“Because I’ve been a farmer I find it easy to talk to farmers as I’m on their wavelength. When you’re dealing with farmers you have to talk to them, get their confidence and show you know what you’re talking about.”

Gavin, Lisa and their children Sean (12) and Ashleigh (11) live on a 1ha block at Atiamuri and have finished renovating the house, doubling its size.

“It’s ideal living here because it’s in the middle of my region and only 20 minutes from Rotorua and 25 minutes from Taupo. Now that my back’s better I’ve taken up hunting again and a mate and I have shot eight deer this season. The family also goes fishing and Lisa has taken a dive course so we don’t have a problem getting crays while I catch the fish.”



Gavin Dunn – FiL Area Manager.

# MEN AT WORK

YOUR FIL FARM SERVICE TEAM HAVE GOT THE COUNTRY COVERED

Bryan Eaton Northland Ph: 08 434 3390 Mob: 025 721 501	Mark Mohring North Waikato Ph: 07 824 4881 Mob: 0274 721 502	Stuart Carter Mairangiwa/Te Araroa Ph: 07 888 5331 Mob: 0274 490 843	Dave Hewson Te Awamutu /Otararanga Ph: 07 877 3506 Mob: 0274 991 674	Allan Clarke Bay of Plenty Ph: 07 544 3720 Mob: 025 730 572	Phil Gulliver North Taranaki Ph: 06 755 3885 Mob: 0274 721 508	Clinton Humphrey Southern North Island Ph: 06 354 4178 Mob: 0274 721 507
Ian Grooby Northern South Island Ph: 03 523 8119 Mob: 0274 721 503	Peter Dodds Southern South Island Ph: 03 488 4572 Mob: 0274 721 504	Gavin Dunn Rotorua/Reporoa/ Tikona/Putanuru Ph: 07 333 2119 Mob: 0274 798 4A9	John Atkin South Taranaki/ Wanganui Ph: 06 278 1450 Mob: 0274 828 535	Geoff Sainty Coastal/Peritapu/ Hawaki Plains Ph: 07 868 2004 Mob: 025 281 0494	Greg Duncan Cambridge Ph: 07 823 5195 Mob: 025 721 505	Allan Teit Central South Island Ph: 03 693 3440 Mob: 0274 883 783

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