HCC Scholarship 2008

Keith Williams

Tour of New Zealand

Why go on a scholarship?

It was originally recomended to me as something that I should do to widen my horizons. The more that I thought about it the more it was something that I would like to do to learn more about farming without subsidies and the different stratagies used to farm without subsidies. I should also say at this point that it is only due to the support of my wife and family that I was able to go. I would also thank my wife, my father and friends and neighbours that helped to run the Hendy while I was away.

Why go to New Zealand?

I chose to go to New Zealand as it is the country that is most like Wales in its production of lamb and farmers there are not paid any subsidies. During the visit I visited 17 farms, 3 slaughter houses and 2 markets.

New Zealand Trip 2008.

Alan Dahm

Alan own a "lifestyle plot" of 30 acres and share farms a block of 80 acres as well as three other rented blocks totalling 900 acres.



He runs a total sheep flock of about 1700 mainly Perindale ewes crossed chiefly by poll Dorset rams. He also buys in approx 1000 store lambs to finish each year. Grows Pasja, a rape brassica, to finish the lambs that do not finish off grass and tries to finish lambs at 15-18 kgs dead.

Alan had a business plan in place which targeted having lambs ready for the European Christmas Market which starts in November.

Lambs over 10-12 wks old with approx 1.5 "of wool are shorn to help them finish/ put on more weight. Believes they will put on as much weight of meat as weight of wool removed in three weeks.

Cattle: runs 115 breeding (suckler) cows being mainly Hereford x shorthorn and Angus cows with some 'black white head' (Hereford x Friesian) cows but these are not hard enough to stick the pressure. Hereford, Angus and Shorthorn bulls are used. No help calving. Lost 5 cows this year which is an OK year. Some young cattle are sold straight off the cows and some are kept for 2-3 years. They are used as the bank cashed when cash required.

Store cattle



sale

There are two auction companies and you enter stock through an agent who works for Auction Company whose job is to sell them to best advantage. The better selling cattle were the black white heads as they will grow better but need to be on the better grazing.

In 2007 there was a drought and now the following winter has been the 3rd wettest on record. Alan thought if they have another drought it could be the end for many famers. There are already a high number of farms coming on to the market but mainly for sale by tender or auction not having a guide price attached to them. He hoped for a good year for the sheep because of reduced sheep numbers, a lot of ewes were killed last year due to the drought.

John and Elaine Roderick and their sons Jeff and Barry.

They used to be a dairy farm but their sons have, some 20+ years ago gone into kiwi fruit production with a few avocados. The farm totals about 25 Ha and is split between the two sons. The farm is organic and is one of the largest of its kind in New Zealand. They grow two types of Kiwi fruit and make a profit of around \$36,000. There is a packing company next door and they pack 8 million trays of fruit a year. The kiwi fruit industry is mainly concentrated around Te Puke about 80% in this area. It is a lucrative form of farming with a plot of 6 ha of kiwi vines and a house being valued at \$2.5 million.

Taupo

<u>David Land</u> Has had a varied farming career which includes milking cows, farming a ewe flock of 7000 and farming deer. He was a founding member of Farmlands which started out as a farmer co-op buying group in 1962 and has now expanded to a national company. It works as a non profit co-op and goes to the primary producer of products and guaranteeing payment for a discount. Members then get the discount but only if they pay up on time. The first product they sold was tea but now cover most things including new cars. David

believes that a selling group could be set up on the same principal and buy shares in supermarkets to then have a say in what is put on the shelves.

Steward and Kate Deadman's, farm runs to 3500 acres of grass with 200 acres of woodland and leases a further 2000 acres. The house is at 2100' and the ground runs from 1700' to 2600'. They run 3500 cows mainly Friesian but with about 200 cross or pure Jersey. The cows are all covered naturally by about 140 bulls. It has 3 milking sheds 1x 61 herring bone parlour, 1 x 80 rotary parlour and a recent addition is a 60 rotary parlour which cost \$1,060,000.

The cows are run in mobs of 500 and graze 12 hour paddocks. So gets a new paddock after each milking. It takes about 4 hours to milk the cows x twice a day. Labour is local and immigration from Argentina, Philippines and Jordan. There is a total staff of 29 + Stewart and Kate.

Water is supplied from bole holes and the one supplying the 80 rotary parlour is capable of 60,000 litres/hr through a 6" bore hole. All fencing is electric fencing. The yard to the 80 rotary parlour is capable of holding 750 cows.

They plan to expand to 4000 cows milking but to allow for wastage and deaths need to start the season with 4300 cows. A vet visits every day to see any problem cows and puts a purple tag in each cow they believes needs to be sold.

98% of all NZ production goes to export through a farmer owned Co-op. The grassland is on a 10 year rotation which includes 1 year of a fodder crop of turnips which is grown for forage shortages through the summer. The cows are fed Palm Kernel in the parlour and minerals/anti-bloat oils mixed into the water supply to the fields. This is a very large business, Steward thought it would be in the top ten biggest in NZ and turned over \$9 million/month. \$1500/ cow and\$50-60 / ewe

Bruce Wills

Bruce farms with his brother Scott and ex-pat Englishman Des. They farm a total of 2000 acres of which 16-1700 is farmable. They carry 3800 Romney

ewes, 900 ewe hogget's, 215 mainly Angus cows crossed mainly Angus bulls some Simmental and red Angus blood. They finish cattle at 2.5 yrs at 320kg Dwtcarcass. Bruce is on the board of Federated Farmers (NFU) and is current chair of the meat and fibre committee representing about 28,000 members.



Average price for a lamb for the last 3 yrs was \$54 / lamb. They export 25% into UK a further 28% into the rest of the EU block and 15% goes into Northern America. Very little as yet is going into China but hope to get more into there and the rest of Asia.

Meat and Wool NZ are working with nutritionists in the US on the Health benefits of lamb i.e., high iron content and benefits of a balanced diet. They expect as a result of drought last year and wet spring to be down 6 million lambs this year. Average beef/ sheep farmer income last year was \$19,400 which works out to \$7.50 / hr which is the lowest for 50 yrs (workers in McDonalds on minimum wage is \$13.00 / hr).

The dairy sector is currently booming and average income for a dairy farmer last year was \$300,000. This led to 600 beef and sheep farms to dairy in 2007.

Aspect of the ground and water supply is the only real limitations. Meat and wool levies: 40 cents /sheep, \$3.60 / beast and 5.25% of wool value. Average age of farm worker: 53, average age of farm owner 59. Ewe numbers 1980's 70

million, last year 34 million. Average cost of production of a lamb last year was \$75 / lamb.

Bruce's farm has this year won The Hawkes Bay Environmental Award. They use biological control of thistles, controlling "nodding" thistles (pink ball flowers) with three insects the crown weevil, the receptacle weevil and the gall fly. With his federated farmers hat on Bruce claimed that NZ farmers wanted to work with UK farmers each having a season to supply fresh lamb and believed the true completion came from white meat pork and chicken. During last year's drought he was cutting down trees for the dry hogget's to feed on the leaves.



Financial future

During my visit I spoke to Chris Lamb, an Agricultural specialist bank manager. He believed that farming has a sound future. Currently to borrow money on longer term would cost 8.5% and running an overdraft 11.5% but these figures are almost changing daily. Dairy is the booming sector driving most land

purchases. There is no CGT in NZ so as their assets rose in value farmers even sheep farmers "felt" better off.

Horizon farming

They have 140,000 stock units over 12,800 ha and a further 1000 ha under management. They run about 15 farms from Gisbourne down to Wellington. So if one unit is suffering from drought or to wet there is probably another one which needs more stock. They have a very close connection with the breeding company Rissington Breeding Services and use the "Primera" and "Highlander" composite breeds. The Primera (non breed specific) is a terminal breed which is now a stabilized breed made up of Poll Dorset, Australian white Suffolk, Dorset down and the Suffolk. The Highlander which is the maternal breed is now a stabilized breed made up from the Finn Dorset, Texel and the Romney.

No breed is used in both Highlander and the Primera to maximise hybrid vigour. 80% of the 28,000 breeding ewes go to the primera rams. Horizon take in 24,000 ewe lambs from "Sheep link" a company which is a subsidiary of Rissington each year. These are put to Primera rams. They then have any lambs, wool, and a payment of \$1.60/kg of weight uplift. Lambs come on at 28 kg and leave 12 months later weighing 58 kg. Horizon need 8000 ewe replacements / year and these are kept out of the ewe lambs that have bred well.

Silver fern farmers slaughter house

In 2008, they were running 2 killing lines each killing 4000 lambs per day with the potential of running a third line on the night shift totalling 12,00 lambs / day.

The lambs come into the lairage and are spray washed then sprayed with a chemical (detergent) then after soaking got through a swim bath of about 30m. If still not thought to be clean enough, they go for another swim or spray wash. They then stand in the lairage to dry off before being killed.

All lambs are Hal-al killed, and bacterial contamination is a big thing. I washed my hands and wellies at least six times and my hands still smell like a swimming pool.

The lambs are all graded visually but are only graded on fat cover and their weight not confirmation. There is also a cutting plant on site and cut over 90% of product. They sell into various markets and the lambs being cut when I was there were going to Saudi.

It is a very efficient system and each man has a bone / waste bin by them and the bins are checked and if there is too much meat left on the bone the man is send to re-train or is moved to a different cutting position.

Holmes and Adrianne Warren, Pirinoa, SE North Island

They farm 2250 acres grazing and lease a further 160 acres with 1100 acres in woodland. They run about 4500 Romney ewes with 300 1 yr cattle and 300 2 yr cattle. They also sell rams which are performance recorded and have a history of over 35 years of recording. In 2008 they increased ave price of ram from \$500 to \$750. This was to cover extra expenses incurred because they are now gene testing for foot rot and worm resilience.

They have now changed to computer program analysis of recorded data which works the ave =0 so the bottom half have a negative figure even though they are better than most other peoples rams it makes them hard to sell because they have a minus figure.

Holmes was glad to see subsidy disappear because he believed that all the suppliers just took the subsidy and it also prevented innovation. During subsidy, average lambing was 105% after subsidy it was up to 130% because less ewes better fed. When subsidy was removed the treasury estimated that 7000 of the most inefficient farms would go bust but only about 700 went bust and they where the younger or expanding ones that had borrowed heavily and could not make the repayments.

The returns on sheep have got smaller and so have had to keep more sheep to make enough money to live on. Then large woolsheds and the covered yards went up. At the start of the 80's the average return / Stock Unit was about \$30 with the best making \$40. They belong to the Wairapa discussion group and

the average farm was 1600 acres with 5500-6000 SU and after subs it was losing \$80,000 (which included a management cost of \$45,000 priced in).

The country's sheep numbers dropped in 2008 due to last year's drought when the price of cull ewes in the works dropped from \$2.20 to \$1.00/kg. The Australian numbers this year are also down from their peak of 150 mil to 94 million. Holmes has killed 35 older recorded ewes to look at their pelvis size. From the easy lambing to the hard lambing the pelvis was 1" smaller. They cull all ewes they help to lamb. A long lambing can cause brain and spinal cord hemerages which are possible reasons for death up to a week later.

They used to AI 600 ewes but this year there will be 200 with rams used across the breeding group and average lambing of 150 They do FEC counting and can put lambs through electronic scales at 600/hr.

They draw rams from above average so as not to lose other traits by concentrating too much on one trait. They also use Cobalt pellets which are injected behind the ear.

Recording most important to be accurate and to connect ewe and lambs and it takes 7 years to see the benefits. On the Farm they have planted a lot of wind breaks, use a block grazing system during winter, electric fence lanes with a lead and following fence not too wide to prevent running and flock are moved daily or twice a day if wet. If their bellies are full they don't run.



Meat and Wool New Zealand.

Met with an Andy Bray and Rob Davison. They gave me a talk about the over view of the meat and wool sector. It is quite incredible how the move in to dairy has grown so quickly reducing the sheep sector and the beef cows. Dairy is up 73%, while sheep is down 41% and beef down 6%. They also have seen a great increase in input costs mainly fertilizer, fuel, feedstuff, etc.

Environmental pressures are increasing to. Some land is now being fenced off and retired from production or being put into forestry. Ground that had been broken from bush is unstable as grassland and is suffering severe erosion and slipping, so is left to return to bush or planted for forestry. Gorse is also a problem creeping into what have been improved areas.

Tim and Sue Anderson, Parnassus



Tim's champion Perindale ewe at Christchurch Show November 2008

They farm 2300 acres and lease a further 500 acres. They sell 500 rams per year and believe that there is a market for crossbred (Texel x Perendale) rams. All stud ewes and rams are DNA profiled which allows them to multi tup the ewes, then when they dock the lambs they tag each lamb and put a spot of blood from the tail onto a sample card which is sent off to Catapult, the DNA company. Catapult has a record of all the ewe and ram DNA's and sends back details of each lamb's parentage.

The main advantage of this system is the ability to run several rams with a larger bunch of ewes so increasing the conception rate. It is however expensive with each sample costing \$18. The initial set up cost of testing ewes and rams is considerable; however there are now other gene markers available including worm resilience, foot rot, cold resistance and others hopefully in the pipeline.

The recording system is run by Meat and Wool NZ who have carried out a study linking growth rates with eating quality as there is a theory that fast grown lambs are tougher eating.

Simon Langley, Canterbury Meat Packers)

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The slaughter house employs 800 people, including 9 lamb reps and 7 cattle reps, killing 1.3 million sheep 50,000 grass fed cattle and 30,000 grain fed cattle. The abattoir runs 2 shifts for 9 mths and only 1 the rest of the year. Their main markets are UK and Europe, North America, Japan and Asia, and the Middle East with only a small amount going into China. They supply Waitrose in the UK with lamb from Dec-May. The lambs for Waitrose are from a dedicated supplier group.

The company is working on improving lamb confirmation with the development of a terminal breed of ram, he would not tell me what it was but I saw some pictures and believe them to be Texel x Suffolk. Simon then took me out to meet Waitrose suppliers Murray and Lyn Harmer. Murray is the "farmer" face of CMP as I saw a life size picture of him with some of his sheep in the reception at the slaughter house. Murray was a shearer for over 20 years saving enough money to then buy a farm of 233 ha in 1992 which has now been improved and has 200 usable ha. The ground runs from 1600' to 2500'. For the last 4 years they have leased a large mountain block 5 km away totalling 25,000 acres which rises to 7,500'. There is a television program in NZ called Country Calendar and they have been there to make a program about the "mustering" of this mountain block. This year it took six people, 2 horses and over 30 dogs six days to clear 3000 ewes. This is a lot quicker than it used to be as they have installed roadways enabling them to carry the musterers higher up the mountain to start. It used to take 12-14 days. They keep bringing the sheep lower down returning to a bunk house on the mountain each night.



When they bought the farm it was covered in Californian thistles and have been working with a local college on controlling the thistles. First they were sprayed but that took out all the clover and didn't get rid of the thistles. They have now developed a system of control which involves going in after taking silage, they electric fence the field into lanes and stock a block of land at a stocking rate of 1000 dry ewes/ha, then they move the ewes each day onto a clean patch when they are hungry, so eating the then soft thistles hopefully in the first half of the day and are hungry to move next day and rotate around the field coming back around in 10-14 days before the thistles have time to become hard and spiky.

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Duncan and Jane Frazer, Mount Benger on the Hurunui River.

They farm 2346 ha with 320 ha being irrigated and is farmed by a farming company partnership. Three workers take a wage for hours worked and then all partners split the profit according to % invested.



They breed their own Highlander replacements with all rams being bought on a mail order basis from Rissington. The 300 suckler herd is closed using three criss-crosses breeding of Angus, Hereford and Shorthorn. All cattle are finished and in the last two weeks prices have fallen \$4.60, \$4.40, \$4.00. High performance sheep are in fact Fussy eaters and so need high performance grass! You need to have susceptible worms on ground so that the resistant worms are less lightly to breed with resistant worms. They do not drench all the sheep to maintain the susceptible worms.

By shearing ewes at 50 days after conception will lift birth weight by 1/2kg. They send all lambs to CMP who send out a handler to go over the lambs who pulls out the fat and over weight to go straight into CMP. Duncan is on a board that oversees Meat and Wool NZ. The board tells MWNZ how to spend the levy money and there is a referendum in two years when MWNZ can be voted out if they don't do as the farmers want.

Tony and Isabel Harbraken

They own 1000 acres running a flying flock/herd system. Aims to run 18-1900 ewes and lamb 150%, selling all barrens at scanning and buys in in-lamb ewes.

Starts lambing around 1/9 and starts selling at weaning 20/11. Will kill all lambs over 16 kg dead. Also at weaning sells all ewes that are not going to go

through to next year. Will only buy back in ewes when the dry summer is over and then only buys 4 tooth or older because all the problems with 2 tooths are over For example, Non-breeders and abortions. He also buys young cattle when they are cheap when the weather gets dry, holds on to them until the weather improves and then finishes them. Also buys around 500 weanling deer and sells them at 12 months of age at around 55kg dead with the current price of \$8-9 / kg.

Temuka market

Cull cows were making between \$1.00 and \$1.30/kg. Bulls making \$1.90 and \$2.00/kg. It didn't matter what age as all were going for manufacturing (ground beef for burgers mainly in the USA). Friesian bulls weighted 709 kg and made \$1.86/kg. Most bulls are usually reared under contract and then mixed with fatter beef from the USA for burgers. There were some odd hogs and lambs which made \$40 all in (\$40/hog +\$40/lamb).



Fat lambs about 23 kg dead made \$113, some poll Dorset lambs about 21/22 kg made \$116, cull ewes made \$55.

We then went for a drive around the Frontera factory which started with one line processing 4 tonne of milk powder per day then added a second line processing 8 tonne per day and have now added a new line processing a

further 24 tonnes per day. 68 truck and trailer tankers work out of this plant each carrying 300,000 litres per load and they run 24 hours per day. The plant processes 11 million litres of milk per day but can do 12 million litres per day maximum. There are 400 employees. They burn 17 tonne of coal per hour to process the milk.

Alistair and Debbie Millar

They run a cropping and sheep farm which is 1200 acres and lease a further 750 acres off the Moari. They crop 300 acres with barley, wheat, maize and carrot and grass for seed. The maize goes for silage for dairy and is sold on weight of dry matter. It yields about 16,000 kg at21 cents per kg and costs \$1800/ha to plant. They also do some dairy support, keeping 100 cows on 6ha for 60 days at \$30/week on kale. 1 ha of dairy needs ½ ha of dairy support. They grow Lucerne to harvest 4 cuts of baleage which are fed to ewes on a sacrifice patch. Then they go on to grass and turnips pre-lambing. The flock are made up of Romney x Leicester ewes crossed with poll Dorset rams. The lambs go to Waitrose and grew at 375 g/day for 90 days, but it's possible on good fed to grow to 400 g/day.

Alistair is on the farmer committee for CMP's Waitrose group. They get a 5 cent penalty for lambs over 18-19.4 kg. They need to belly shear lambs when wool is over 50 mm. NZ has 22 works with export licences. There is a gene for twinning only THE WISHHART GENE.

Greg Rob

Greg runs a dairy unit owned by a consortium. It is 795 ha with 720 effective running 3000 cows. Average rain fall of 600mm/year and the ground is irrigated by centre pivot irrigators. They allow a stocking rate of up to 4.5 cows / ha and they aim to get the soil pH of 5.8-6.2 and P of top 20's to bottom 30's. They buy in barley, palm kernel, straw and silage.

Cows are supplemented in the parlour with 3 kg of feed. Grass kg/ha: 2000 kg/ha=3", 3000kg/ha=5", they aim for 2900 kg to put cows into and graze

down to 1500 kg/ha. If it gets over 3000 kg/ha it is taken out of rotation and silaged.

All paddocks are 4.2 ha. In 2007 they grew 15.3 tonne of grass dry matter/ha. They aim for cows to 20 kg of dry matter/day, produced 470 kg of milk solids/cow and 1800 kg/ ha. Cows are block calved starting on 1/8 and finish milking at the end of May. Then the cows are sent away for winter. Hopefully they come back to 2500 kg/ha of grass. They get a 90 day winter. They have 3 x 60 rotary parlours. They rear 700 replacements per year which go to the bull at 320 kgs around 15-16 months.. They Aim to be 480-500 kg at calving. Cows are Al'd being mainly Friesian but some crossbreds. We then drove by Ragituti Island, a patch of ground between two rivers which totals 18,000 ha, in1991 it carried 26,000 sheep and 400 cows now it only has 1,000 sheep and all the rest is dairy cows.

Lester and Claire Rowland, Omaru

Lester used to work in the freezer works and was able to get me in to the <u>Alliance plant at Pukeuri</u>. In 2007 they killed 1.9 million sheep and 40,000 cattle which included bobby calves on three sheep chains and one cattle line. They have three boning rooms which in high season run 24 hrs selling 96% of their production pre-packed. There are 850 people in the slaughter house and a further 100 office staff. Over 30% comes into the UK supplying Tesco, M+S, and Sainsbury's. The fifth quarter is dropping in value which is putting pressure on prices, and they are predicting that 2009 is going to be a "tough" year. 70% of the beef goes into ground beef, and Lester said that they used to like to get the old cows in calf as the blood from the unborn calf is used to go into cosmetics.

Alistair and Lyn Cocks.

They farm 2500 acres, carrying 5500 ewes including 1300 stud Coopdale ewes which is a cross between a Coopworth and a Perendale which they have bred themselves and now have a stabilized breed of their own. 1400 Hogget's of which 1300 are wintered away and 400 ram hogget's which they sell for breeding.



They also carry 200 breeding cows mainly Angus with some Murray Grey.

They sell half the young stock off the cows and use the other half for replacements or finish them. 55% of the ground is still in natural tussock grass but limed and fertilized to improve between the tussocks but still has only half the carrying ability. The tussock country runs from 600′ to 1100′ and the improved pasture from 400-600′. They have around 65″ of rain/ year. Winter ewes are on Swedes while Lamb ewes on the tussock country for shade and more side land to help prevent casting(on their backs). They spray and direct reseed 45 ha per year using a grass mix of 24 kg of Sterling rye grass, 3.5 kg of Demand white clover, ½ kg of chicory and ½ kg of plantain. They try to use low endophyte grasses as there is a connection between high and low endophyte and high and low daggyness. They claim that actually young clover needs a low level of nitrogen until it can get established.

They keep good records of their stud flock using a specialist computer program and a palm top computer out in the field at lambing. In 2007 they scanned over 1000 triplets and over 30% were reared on their mothers which is pretty good seeing as they are not shepherded during lambing. In fact the non stud ewes on the tussock country lamb had a survival rate for triplets. When they select rams to keep they use records a lot going on growth rates, mother's ability to rear all her lambs and ability to have twins yearly.

Morgan and Barbara Williams

Morgan is now 63 and has leased all but 200 acres of his total 2000 acres to his nephew. They are members of the local discussion group which has 15 members and meets 10 times per year. They go around different farms discussing a relevant topic to each farm, and go around the group each saying what they have done in the last week. No information goes off farm and a trust relationship has been built. They lime 300kg/ha every year with their 375kg/ha fertilizer application using 9% super phosphate (has been treated with sulphuric acid to increase solubility) and added magnesium With the aim for a pH of 6. They claim that added magnesium keeps the animals calmer. They Need P levels to be 20 but aim for 25 as the tests are 20% inaccurate.

They lamb on the 1/9 and wean at 16 wks but question why they wean at all because lambs grow 300g/day on milk and half that when they are weaned.

At lambing stock twin ewes at 4/ha and single ewes at 6/acre. It is very important to keep the grass short to allow light in to the clover. During the winter they block graze the ewes, that is 3000 ewes on 7 acres and move them daily.

There is a Big use of electric fencing to control grazing. When rye grass is grazed off it will in three days send up a new growth but if this is grazed it will take a long time to then re-grow After spraying sugars concentrate in the grass and sheep like it. If growing a fodder crop like Pasja perhaps put some one year grass with it to make sure that they eat it !!!. Most big jobs are done contract tailing 73 cents/lamb, shearing \$3.50 all in and crutching \$1.60/ewe.

What did I learn?

The four main things that I found to be different in New Zealand were:

- 1. The climate, which was a lot more stock friendly and you were more apt to run out of grass in the summer than the winter.
- 2. The paperwork, which is a lot less onerous or non-existent compared to our bureaucracy.

- 3. The farmer attitude, which was more businesslike and a will do attitude.
- 4. Their system is totally based on low cost.

Other things that I noted listed in no particular order:

- A lot of the farms that I visited made use of performance recording.
- Cull any ewe that was handled at lambing.
- A long lambing can cause brain and spinal hemerages leading to death up to a week later.
- Carcasses in the field are left to "melt" into fertilizer.
- Shearing 50 days after conception increases foetal weight by ½ kg.
- Rams are purchased in November, four months before they are used.
- It takes seven years to see the benefit of performance recording.
- High performance sheep need high performance grass.
- Use of cattle as a "bank" only cashing in when needed otherwise leave them to grow.
- Dairy up 73% Sheep down 41%.
- Great reliance on irrigation particularly for the dairy.
- They have a board overseeing Meat and wool New Zealand and they can be voted out in a referendum.
- The use of spraying off and direct reseeding.
- The wider the blade of grass in rye grass the less persistent it is.
- A rye grass plant three days after being grazed off sends up a regrowth if this is grazed off it then takes longer to recover.
- Ground there is being "retired" and returned to nature or forestry due to ground broken from bush being very unstable and suffering erosion.

- "Farmlands" A farmer Co-op is a good way of setting up a buying group.
- Kiwi fruit growers have got together and control the marketing of kiwi fruit and so dictate the price not take what they are offered.
- New Zealand farmers want to work with British farmers and not be played off against them by the supermarkets believing that white meat is the competition not each other.

What would I possibly do from what I have learnt?

It is hard to say what could be put into practise here in Wales as their low cost system is so reliant on the climate that we do not have. The farmer "psyche" is the greatest asset that I thought they had. If it was possible to get to understand the way they think, that is what I would most like to be able to do. On the practical side I would like to try is shearing lambs, and to make use of spraying off and reseeding to improve our grassland. It would also be beneficial to performance record sheep and in particular to buy performance recorded sheep especially in relation to ease of lambing. It would also be good if you could buy rams four months before they were used as this gives time for quarantining and to allow them to settle down before expecting them to work. I also think that the way to making a profit from farming is the low cost of production as I cannot see the housewife and diffidently not the supermarkets paying any more for our lambs.