OLD AND NEW

When Waipuna started performance recording their Romney flock in 1978, lambs were tagged at birth to provide parentage as the ewes were single-sire mated. Lambs were subsequently weighed at weaning, at 6 and 8 months for growth rate data, followed by wool weights. All this information was then used to form breeding values and an economic index. Oh, how it has changed! We now have a flock with Highlander genetics! Parentage is identified with DNA from tissue samples taken at docking, eliminating single-sire mating. DNA opens an exciting field of genomic possibilities. Electronic tags enable easy measurements of growth, mating weights and condition scoring of ewes and even wool weights. We now have access to technology that can give measurements to improve lamb survival and ewe resilience. Ultrasound scanning to measure eye muscle area and fat cover (positively linked to body condition score), skin thickness to improve lamb survival as well as measuring facial eczema tolerance and resilience to internal parasite and more recently methane.

Since our last update, we have not been sitting still, as we informed you, we have separated our ram breeding business from Focus Genetics LP and Pāmu. Since the 1st of April 2020, the Waipuna Highlander is completely owned and controlled by Waipuna Farms, as is our Primera Multiplier Flock. Our Waipuna Maternal flock will continue to be Highlander genetics and the Terminal flock will continue to be based on Primera genetics.

Waipuna has secured the services of ALLIN Solutions, a genetics consultancy company owned by David (Norm) Alderson and Dr Danitsja (Dani) van der Linden. We are very pleased to have Norm and Dani to help us with our ram breeding operation. Dani has always been passionate about the Highlander. From a geneticist's point of view not being limited to a pure-bred opens up great potential of exploiting variation to make fast progress. While, Norm, on the other hand will be putting his energy into marketing the Waipuna genetics and servicing our ram clients. Norm and Dani will also ensure that a well-balanced package of genetics and physically sound rams are produced each year.

Partnering with this experienced team will ensure that we stay nimble and innovative and in the best position to meet your expectations and requirements.

Waipuna Maternal
Our new name for our
***Highlander** genetics*

Waipuna Terminal
Our new name for our
***Primera** genetics*

RESILIENCE IS KEY

We believe that resilience is key. Resilience is defined as the capacity to recover quickly from adverse conditions. This is a trait that we think is going to be particularly important to have in our sheep in the future. So, the question arises, is there a breeding value that is called resilience, so we can directly breed for that? Short answer – no. However, there are traits that are correlated with resilience for example, body condition score, FE tolerance, worm tolerance, ewe stayability in the flock and structural soundness.

Our main objective for our Waipuna Maternal with its Highlander genetics is breeding a productive and resilient ewe, that can get in lamb from a hogget onwards, rear good lambs at weaning and is resilient to FE and worm challenges.

PERFORMING UNDER DROUGHT CHALLENGE

Waipuna Maternal with its Highlander genetics stand out from other breeds for their ability to maintain fecundity when the going gets tough (e.g. this season's drought). This is validated by existing Highlander genetic clients who have maintained normal scanning levels, despite the harsh conditions. In addition, Highlander genetics dominate the August SIL ACE leader list for reproduction with 6 rams in the top 25 of which 2 share the number one place!

"Our Highlander hoggets scanned 145%. A great result during a tough dry season" Daniel Preece, Pohuetai Farms

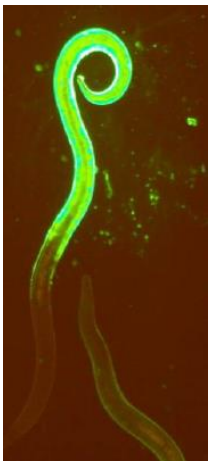
"Going up 400 ewes and maintaining our scanning at 194% over all Highlander ewes without use of chemicals, then retaining an extra 300 hoggets and scanning 94% wet/dry, we are very happy!
In a year such as we have had these Highlander sheep continue to step forward" Andy Sherratt, Pukeatua Farming Co.

WORM TOLERANCE - Dani's explanation of why we have selected the CARLA® test

We have started the journey to breed more worm tolerant sheep. We are doing this by using the CARLA® saliva test.

The CARLA® saliva test measures a molecule (CARLA®) found on the surface of all internal parasite larvae (L3s) infecting livestock. This molecule is very tough and able to withstand the passage through the rumen. CARLA® is only present for a few days after larvae are ingested. Later stages of the worm life cycle (L4 and adult) do not have the molecule.

The sheep's immune system produces antibodies against this CARLA® molecule in response to larval challenge. In immune sheep, high levels of CARLA® antibodies are present in saliva and gut mucus; these antibodies bind to CARLA® on the surface of ingested L3 and prevent establishment in the gut. In practice, all sheep are exposed to worms and develop some sort of immune response to worms. The question is whether this immune response is efficient and protective or not.



The worst situation is when sheep put a lot of energy into immune responses (such as persistent scouring) that may not protect them, and which leads to reduced production.

We are targeting the CARLA® immune response because it is at the other end of the spectrum; it is protective and, because it acts on larvae, it cuts down the workload for downstream immune responses against established worms.

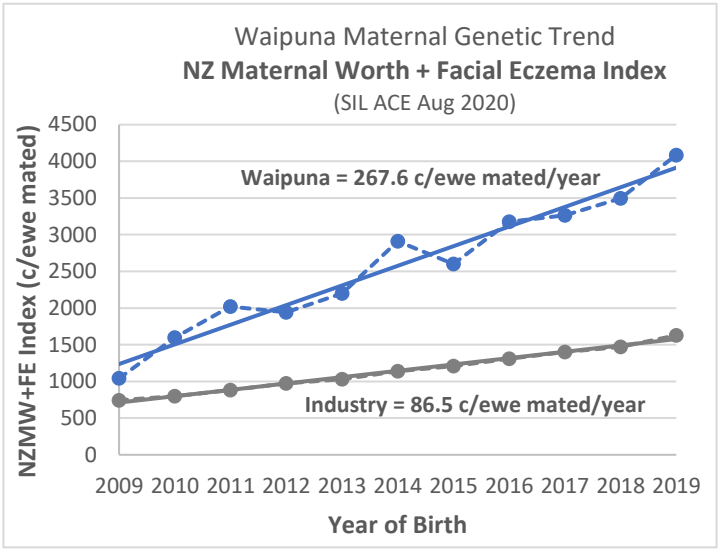
In addition, the heritability of the CARLA® antibody response is high (30%). Lambs with CARLA® antibodies in saliva tend to have a lower faecal egg count. The antibodies neutralise incoming larvae so fewer establish, resulting in less adults and less eggs produced. Animals with a "good" CARLA® antibody response by March are typically shedding 30% less parasite eggs than their non-responsive flock mates. The genetic correlation between CARLA® antibody level and faecal egg count is about -0.5, this means that it is a useful genetic predictor of faecal egg count. Double bonus!

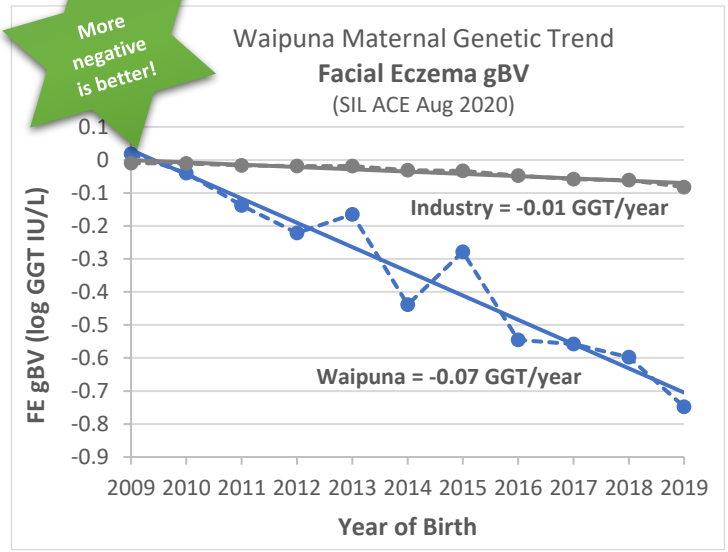
Facial Eczema Tolerance

The Waipuna Highlander is leaping ahead in FE tolerance. These gains are due to our extensive FE programme. We measure 80 ram hoggets, comprising 16 sire lines, for facial eczema tolerance in February each year. This is the second to largest cohort of rams measured by Ramguard AgResearch each year.

This year we tested our ram hoggets at 0.45 mg/kg LW with the aim to reach testing levels of 0.60 mg/kg LW as soon as we possibly can. Our efforts are rewarded by having 5 rams in the top 25 of the August SIL ACE leader list for NZ Maternal Worth + FE Index.

We let the genetic trend graphs speak for themselves!





Wool

The weekly Agletter from BakerAg says it all…

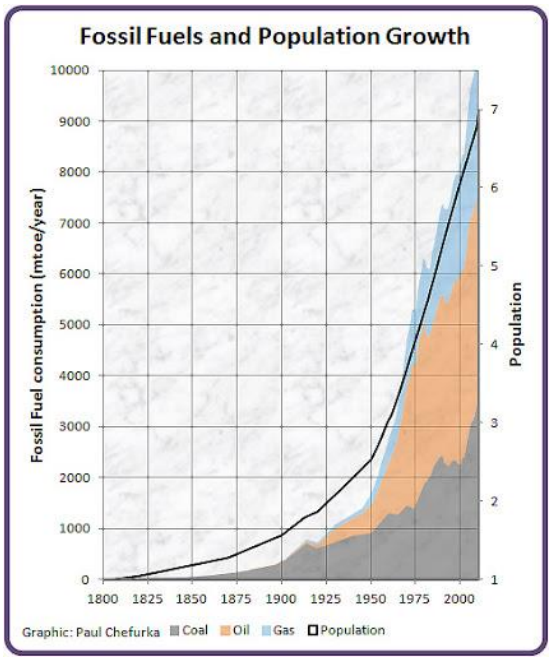
From AgLetter – used by permission

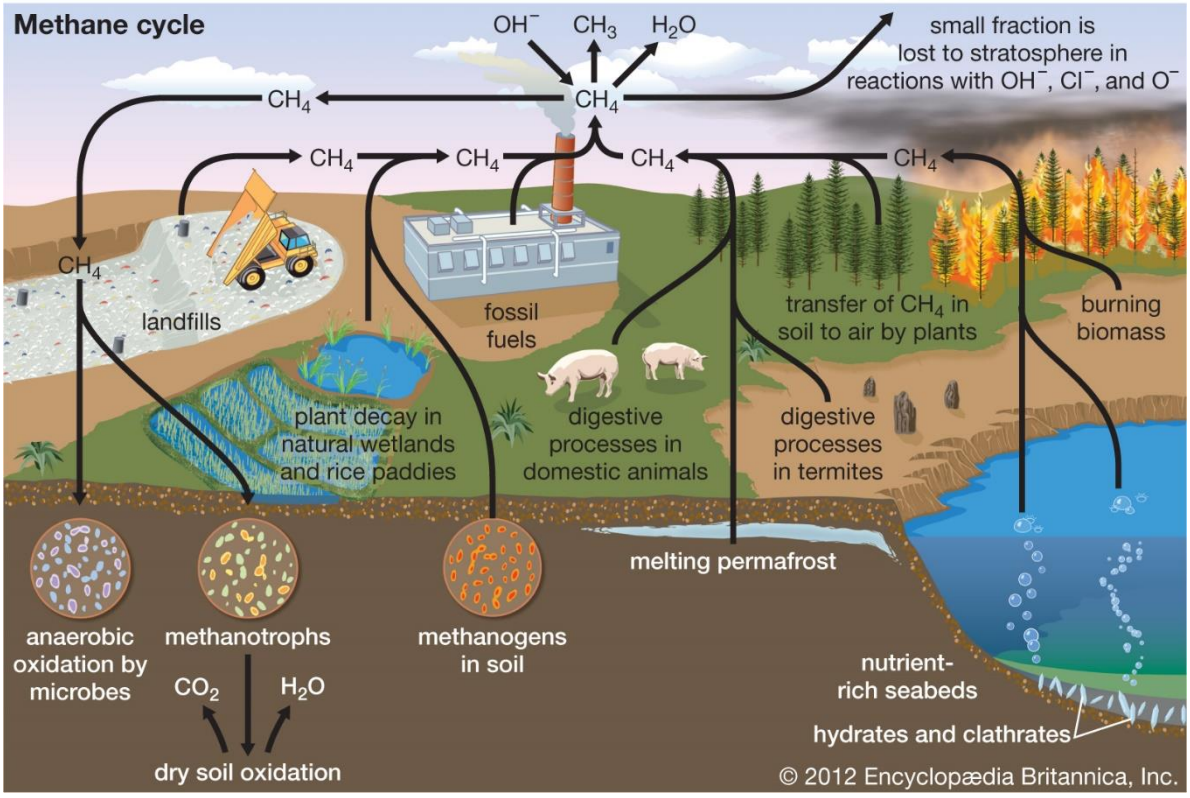
MEASURING METHANE – IS IT WORTHWHILE? DEFINITELY!

Carbon dioxide (CO_2) and methane (CH_4) are, rightly or wrongly, the current villains in the fight against climate change. The source of irritation is that our Government, backed by our ill-informed media, uses gross methane output as NZ's major contribution to climate change, ignoring the roles of ruminants and methane in the carbon cycle.

As part of the carbon cycle, there are many sources that release methane into the atmosphere. On the other hand, there are also methane "sinks" or ways that methane is trapped or destroyed, making methane a temporary gas in the atmosphere (9 to 12 years). Methane is oxidised to CO_2 over time and CO_2 is required for photosynthesis and plant growth, for example, necessary to feed our ruminants. The magic of the rumen is unique in that it can convert plant cellulose into amino acids which are the building blocks of protein. Only ruminants can "up cycle protein" like this. A by-product of this process is methane, which is then converted back to CO_2, needed for plant growth. A full cycle.

It could be argued that the greatest contributor to the net increase of the world's greenhouse gasses is humans releasing CO_2 from sequestered carbon beneath the earth i.e. fossil fuels. Global warming is therefore a direct result of the burning of fossil fuels to support the massive increase in world population. Many of them wealthy and very mobile.





Over the last 20 years sheep and beef farmers have reduced methane emissions and are currently sitting 31% below 1990 levels as shown in the table below (source B+LNZ Compendium 2020).

	TOTAL[1]			PER TONNE OF PRODUCTION[2] CWE		
	1990	2018	CHANGE	1990e	2018e	CHANGE
Beef Cattle	5,755	5,402	-6%	13.4	12.1	-10%
Sheep	14,172	8,390	-41%	26.8	18.6	-31%

1 kilotonnes CO_2-e: Carbon dioxide equivalent
2 tonnes CO_2-e: Carbon dioxide equivalent
Source: Beef + Lamb New Zealand Economic Service, Ministry for the Environment

Farmers have achieved this by creating more efficient farming systems and using better genetics, providing better quality forages, and having more efficient, productive animals on farm, just to name a few examples. This is shown by the fact that the number of sheep have dropped by 53% whereas lamb production dropped by only 9% over the last 30 years.

Research is deciphering the relationship between methane emissions and feed efficiency. Studies in sheep to date show that methane emissions could be a good proxy for feed efficiency. A double win, as we all measure our production outputs, but we can still make huge gains by reducing our inputs. This makes measuring of methane worthwhile in our Waipuna Maternal.

Let's take the negative emotions out of the ruminant methane debate and let the science prevail. This will be a real positive for ruminant pastoral farmers in NZ.

Taxing methane from grazing ruminants is a nonsense!

Methane measurement chambers at Waipuna

RAM SALES

We have put a considerable amount of time and resource into building a resilient productive sheep. This doesn't come cheaply but it is worth it, as our Waipuna Maternal rams are looking great this year!

The Waipuna Terminal rams are also looking great. We have placed more emphasis on a terminal sire that looks more like the traditional Primera rather than the FocusPrime.

Just like previous years, many of the 2th rams available for sale have been used as ram hoggets for mating with our MA commercial ewes and ewe hoggets on the hill country of the Waipuna properties.

Due to Highlander genetics performing exceptionally well this Autumn compared to industry, demand and interest has risen, so early bookings are essential to ensure your requirements of rams. Waipuna will have both Waipuna Maternal with its Highlander genetics and Waipuna Terminal 2th Rams for sale in November.

Ram sales will commence on Wednesday 11th of November 2020.

There will also be ram hoggets for sale in March next year.

All enquiries welcome and encouraged. Come over to look at Waipuna and the farming operation and talk to Donald, Liz and Cam. For your ram requirements or a chat about genetics give Norm and Dani a call.

We hope spring is kind to you for a successful lambing!

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Cam Wenn (Manager)
Phone: 06 342 2854

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