



PAKI - ITI

ROMNEY - ROMTEX - SUFFOLK - SUFTEX

2018



Suffolk and SufTex Ram Hoggets

2018 – A YEAR TO REMEMBER

2018 will go down as a year to remember for many sheep farmers. A year when lamb schedules and store lamb prices defied normal seasonal pricing breaking records as the year rolled on, with schedules climbing to just under \$9.00/kg, store lambs peaking at \$4.50/kg in August, prime hoggets selling for \$250/hd at Feilding, and scanned in-lamb ewes selling for \$240/hd at Stortford.

Looking forward to next season pricing signals still look good. Alliance has new season contracts at \$8.20/kg up to early November. ANZCO will be around \$8/kg, and believes it will be \$7/kg in January short of a crash.

It's been seven years since we last saw the prices 2018 has delivered. We all know what happened next, as lamb priced itself off the market, and ultimately damaged demand. A recent report by Meat & Livestock Australia (MLA) identified threats but concluded that the scarcity of quality sheep meat

globally is likely to continue to underpin prices in the long term. These conclusions are in line with what NZ exporters are reporting.

For us at Paki-iti, 2017/18 will be remembered as we pushed our number of sale and lease ram clients to 154 in one season and achieved 155% lambing at Paki-iti on steep hill country with nil shepherding. It will also be remembered for the four days of cold driving rain during the first cycle of lambing at Paki-iti and through many flocks in New Zealand, being a reminder that farming has its downs as well.

This year's newsletter looks at new developments in Paki-iti's breeding programs, why we think Paki-iti rams are a good genetic option for farmers, and the conclusion that the best genetic dollar is spent on rams.

HIGHEST ACCURACY* SALE RAMS IN NEW ZEALAND

For the second year in a row Paki-iti will be offering all its sale Romney and Romtex rams as DNA tested using 5000 DNA markers. The use of 5K provides the most accurate prediction of an animal's performance, thereby reducing the likelihood of a ram not breeding to its expectation. This used to be one of the biggest frustrations in our ram breeding programme. The consistent use of 5K is a first for the New Zealand sheep industry. Clients can be reassured

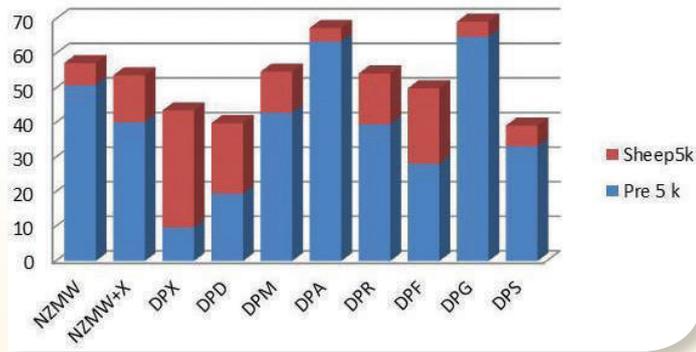
that what they are purchasing will perform as accurately as we can possibly make it. Below is a graph of the improvement in the traits we are selecting for before we 5K tested and after we 5K tested. As can be seen on the graph the biggest gain



Continued overleaf



Accuracy from Sheep5k - Paki iti Sale Rams 2017



in accuracy for a trait is Facial Eczema. This accuracy is now the same as sporidesmin testing nine progeny. The greatest accuracy though still comes from purchasing rams from breeders who have been testing for eczema over a long period of time.

*Accuracy is just for the Maternal Worth traits

NZMW* – Maternal Worth
 DPX – Eczema
 DPD – Dag
 DPM – Meat
 DPA* – Adult
 DPR* – Reproduction
 DPF – Worm
 DPG* – Growth
 DPS* – Survival

FLOCK PURCHASE

In November last year, Paki-iti purchased the Te Ohu recorded Romney flock from Rick and Rachel Pettigrew of Kimbolton. This included Romney ewes, ewe and ram lambs and also Romtex ewe and ram lambs. For many years this flock was bred at the bush line of the Ruahine Ranges at Apiti and more recently below Kimbolton. Through our involvement with nine other Romney breeders, progeny testing and the use of each other's rams we have been involved with Te Ohu since 2006. Purchasing the flock has enabled us to increase the number of recorded ewes in the Romney breeding program and has also enabled us to increase the number of ewes in the Romtex breeding program.



WHY PAKI-ITI RAMS?

- 154 clients last year purchased or leased Paki-iti rams
- Maternal flocks bred on hard hill country rising up to 637m asl (2090f asl) Only 2% of property flat to rolling, rest hill
- Commercially run, with a survival of the fittest policy
- 98 years of breeding rams
- 2800 fully recorded SIL maternal and terminal ewes

Paki-iti Romney

- Breeding for constitution, longevity, structural soundness and performance
- Constitution = moderate frame, deep bodied type of sheep
- Performance = Growth, fertility, survival, hogget fertility, meat yield, wool, worm tolerance
- 7 years of developing a Facial Eczema tolerant sub-flock
- 5-year average lambing -149% with 43 years of Nil Shepherding at lambing time – easy care
- 100% of sale rams are 5K DNA tested for greater accuracy – a first for the NZ sheep industry
- 12 years of working closely with 9 other Romney breeders – shared genetics, meat yield trials
- Maintaining wool breeding policy

Paki-iti Romtex

- Eight years of breeding Romtex, utilizing a stabilised recorded Romtex flock
- Based on the Paki-iti Romney
- Romtex rams sold as 22th rams, not ram hoggets
- High performance – Romtex base bloodline ram (over 700 progeny) ranked in top 1% in NZ for Maternal Worth, top 5% for fertility and top 1% for growth

Paki-iti Suffolk & Suflex

- 450 Suffolk and Suflex rams sold and leased last season
- Breeding for constitution, longevity, structural soundness and performance

- Constitution = moderate frame, deep bodied type of sheep
- Performance = Fast growth, high meat yield and high survival and incorporating meat quality traits
- 5 years of C/T scanning
- 11 years of wintering ram hoggets on steep hill country - constitution
- Suflex bred for darkness
- Ram hogget terminal lease option available in the autumn
- Member of the Premier Suflex group along with 12 other breeders
- Good temperament



PAKI-ITI'S RATE OF INBREEDING

We have just had Abacus Bio, a company that specialises in agricultural scientific research and advanced technology, look at our Romney breeding program to see if there were any issues with inbreeding and therefore any potential issues with our client's flocks that purchase our rams over a period of time. Inbreeding causes three main problems:

1. Increased faults;
2. Loss of genetic potential or variation; and
3. Inbreeding depression which causes individuals to become less able to fight disease, tend to become less fertile, grow more slowly and reach smaller mature sizes.

Abacus Bio's result was that we had an average rate of inbreeding of 2.3%, which is the average relationship between individuals within our flock. This was a good result with the chances of breeding depression being remote and that it was highly unlikely that clients would have any issues using our rams over a long period of time. An inbreeding rate of 4-5%, genetic diversity and inbreeding depression is at play and at 6-8% is described as "needing an ambulance at the bottom of the cliff".

PAKI-ITI OVERSEAS

For our second year we airfreighted Suffolk's to Japan. This year we sent in-lamb ewes to rebuild a Japanese Suffolk flock that was devastated in the fall out of the 2011 earthquakes. Other countries where Paki-iti genetics were used this year were Canada, USA, Chile and Ireland. The export of Paki-iti Suffolk ewes, ewe hoggets and ram hoggets to Ireland in 2015 and 2016, as part of a trial comparing NZ Suffolk and Texel to high index Irish Suffolk and Texel and low index Irish Suffolk and Texel, found that progeny of New Zealand's ewes reached slaughter weights earlier (+5 days to high index Irish ewes and +15 days compared to low index Irish ewes) with more of the progeny finished on grass, without the need for concentrates (96% compared to 82% high index Irish ewes and 69% low index Irish ewes). Lambing difficulty in the NZ sheep was also significantly lower (9% compared to 20% of the high index Irish lambs and 21% of the low index Irish lambs).



Koichiro Komachista of Japan and Stewart Morton

IMPROVING SURVIVAL

Breeding is forever evolving and this year is no different. Building on the research done by fellow Romney breeder Ross Humphries around skin thickness, we have started measuring skin thickness of our Romneys through scanning. The theory is that the lambs with the thicker skin have a higher chance of survival when born which assists in addressing one of the biggest issues in farming being the loss between scanning and lambing. We have found there is a 33% range in skin thickness from 4.1mm to 6.1mm.

Using a cooling chamber, Massey research has shown that 22 out of 32 thick skinned lambs would have died compared to 30 out of 32 thin skinned lambs. These results showed that the thicker-skinned lambs held their body heat much better than thinner skinned lambs and that they generated less heat. Skin thickness is moderately heritable at 26% and may be a good indicator of survivability compared to heritability of survival to weaning of 3%. While this research is in the early stages, it is a trait to keep an eye on moving forward.

WHAT'S THE BEST GENETIC INVESTMENT FOR FARMERS?

Many sheep and beef farming businesses look to genetics to improve profitability in three main areas:

1. Rams,
2. Bulls; and
3. Pasture

So, what is the best investment out of the three for farmers? In this exercise we theoretically compare Romney with Angus and ryegrass.

LONGEVITY

Rams – Dave Robertson completed a Beef & Lamb Genetics Ram Health study and over 458 rams the average number of years mated was 2.7.

Bulls - Breeding bulls have a similar life span as breeding rams.

Pasture – Very debatable as to how long pastures last, but according to the Pasture Persistence Symposium, poor pasture persistence is a major issue currently confronting dairy, sheep and beef farmers through many areas of New

Zealand. Four to five years seems to be how long ryegrass pastures are lasting.

GENETIC GAIN

Rams – over the last 19 years the genetic gain measured by SIL NZ Maternal Worth has increased 79c a year per ewe mated, per year. This makes the genetic gain per year at 5.3%.

Bulls – The genetic gain in the Angus breed for Angus Pure is \$3.36 per year over the past 19 years per cow mated. This makes the genetic gain per year also at 5.3%.

Pasture – Genetic gain in perennial ryegrass forage yield in Australia and New Zealand 2016 study has shown genetic gain in total annual dry matter (DM) yield for perennial ryegrass cultivars have ranged from 0.25 to 0.73% per year. In an Irish study "Genetic gain in perennial ryegrass varieties 1973 to 2013" have shown that the average genetic gain for yield is 0.35% under a simulated grazing

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trial, sward density (persistence) showed no gain at all over 40 years and digestibility over a 30-year period showed an insignificant genetic gain as well.

RETURN ON INVESTMENT

Rams – With a mating ratio of 1:80, lambing at 130%, averaging \$90/lamb over 2.7 years, an average ram purchased for \$1100 would produce \$25,300 worth of lamb. The cost of the ram to what it produces is 4.3% and returns 23 times what it cost.

Bulls – With a mating ratio of 1:40, calving at 85% and averaging \$880/hd (230kg @\$4.20/kg steers and \$3.40/kg for heifers): over three years would produce \$90,000 worth of weaners. An average bull purchased at \$9000 - \$2000 residual value = \$7000. The cost of the bull to what

it produces is 7.8% and returns 12.9 times what it cost (including residual value).

Pasture – Using the Beef & Lamb Pasture Renewal Calculator and taking into consideration establishment costs, sprays, the cost of the feed gap during establishment, an increase in annual yields of 80% over 5 years the return on investment per year is 3.2%.

CONCLUSIONS

In terms of genetic gain and return on investment purchasing rams is by far the best dollar spent. When keeping females, the advantages of purchasing rams and bulls is further enhanced as genetic advantage is compounding year after year. Another question to ask is ryegrass genetics overhyped and overpriced with fancy names?

WOOL – A GLIMMER ON THE HORIZON

The mood for change is growing rapidly as the world realises that it is not sustainable to continue to pollute the planet with plastics and other non-biodegradable products. This is very good news for a natural, sustainable product like wool.

The news that Dupont, one of the world's largest producers of synthetic fabrics and Wools of New Zealand are working together to develop a new, eco-friendly, wool-blend home textile yarn is a positive story. The new yarn is scheduled to be released later this year or early next, prompting a "cautiously optimistic" Wools of NZ chief executive Rosstan Mazey to predict the industry could be on the cusp of significant change. Mazey said if successful, the super fibre

could use significant volumes of strong crossbred wool.

But that's not the only bright light in the sky. Ian Cuthbertson, manager of Wool Industry Research Limited (WIRL), who are into their third year of seven with \$21m of development funding, had this to say about their progress "WIRL's focus is on commercialising new novel high and medium value materials based on deconstructed crossbred wool fibre, and personally I am more optimistic than ever that we will have new materials on the market that will create significant new demand for crossbred wool, and that can comfortably sustain at least double the current farm gate price." Further details will be delivered at the WRONZ AGM on the 25th October in Christchurch.

WE WANT TO KNOW

The old saying in farming goes "when you have livestock, you have deadstock". However, we like to look at this a bit differently, so like to ask the question "why did it die?" or "why is not doing well?". There is always a reason why. Each year less than 1% of Paki-iti 22th rams sold, have to be replaced. The most common cause by far when diagnosed for those that either die or aren't doing is Barbers Pole, followed up by Facial Eczema. However, we have seen poisoning, pneumonia, molar infection amongst other

issues. Basically, we want to know if there is a problem. If you have any issues with rams we will cover the costs of the vet and diagnosis tests to help find out why. It is also worth knowing that all 22th rams are given a 10 in 1 and booster in October to cover for Closidial diseases, so is a good idea to give the rams a booster injection around lambing time every year.

Every ram sold carries a guarantee of performance, with a 12-month replacement policy.

RAM PRICES

This year we have lifted ram prices due to a number of reasons. Over the last several years we have sold out of rams every year even though we have increased sale numbers to match the extra demand. There has also been excess demand on the top price brackets for both the maternal and terminal rams due to our ram prices being considerably lower than our competition.



FE Romney mating mob

HERE'S TO A FAVOURABLE 2018/19 FARMING SEASON



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