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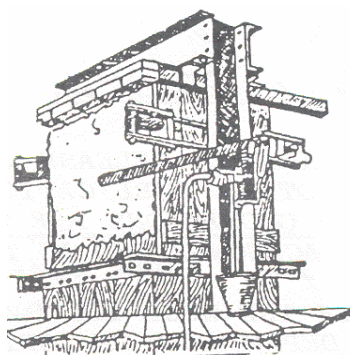
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Edited By Tracy Evans

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EDITORIAL

It has fallen to me to write the editorial for this edition and perhaps that is quite appropriate as it has a very veterinary flavour. I'll cover the veterinary articles first. I've written a short breakdown of this year's abattoir disease statistics – nothing startling to report and, generally speaking, the most recent season has been a good one from a disease and hygienic production point of view. Ross has written quite a lengthy article about the value of setting up a flock health plan. Have a read of it and see whether there is anything you could think of adopting on your farm. As with all these schemes they are really designed to make you think more carefully about your current practices and how they might be improved on – always a worthwhile exercise. On page 13 Zoe is continuing her series of articles on trace elements and for this edition she is concentrating on selenium. It is an element that we frequently find at lower than optimum concentrations in many animals that we sample and that will have an effect on an animal's wellbeing and growth rate. Also on the veterinary front are a welcome message from our new Vet Phillip van der Riet (p 21) and a farewell message from our outgoing Vet Ross Milner (p 23). This is a good opportunity to say thank you to Ross for his contributions over the past 3 years and wish him well for his future back in New Zealand and Fiji – especially as he has decided to journey back to NZ aboard a fishing vessel. I have to say – rather him than me! Continuing the welcoming and farewell themes we say welcome to Merrie Ellis who will be working part time as a Veterinary Receptionist and farewell to Katrice Berntsen who is heading off to Edinburgh to study for a Veterinary Nursing degree.

Well that's enough from the Veterinary Section - they have also been working down in the Agricultural Section as well. In fact, as many of you on the West will already know, the Agricultural Section has been out and about on West Falkland visiting 17 different farms and having some in depth discussions with farmers around their kitchen tables. From what you can read between pages 11 and 14 it appears to have been a very productive time for all concerned. Something very similar will take place on East Falkland over the next month or two. And finally you can find out what has been happening on Saladero over the past few months – generally speaking things seem to have been going quite well but don't Upland Geese eat an awful lot of grass and fodder crops! The scanning results at Saladero indicate that the vast majority of ewes have become pregnant and that now needs to translate into a good lambing % in a few months' time.

Make the most of the next few weeks to fully recharge your batteries before the busy spring season kicks in. Aren't we fortunate to have so far escaped the problems associated with Covid 19 and long may that continue. If we can keep it at bay until the end of this year then there is a chance a viable vaccine may be ready for use early in 2021.

Best wishes for the start of shearing season in September.

Steve Pointing
Senior Veterinary Officer

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DOG DOSING DATES FOR 2020/2021

Date	Drug
Wednesday 22nd January 2020	Drontal
Wednesday 26th February 2020	Droneit
Wednesday 1st April 2020	Droneit
Wednesday 6th May 2020	Droneit
Wednesday 10th June 2020	Droneit
Wednesday 15th July 2020	Drontal
Wednesday 19th August 2020	Droneit
Wednesday 23 rd September 2020	Droncit
Wednesday 28 th October 2020	Droncit
Wednesday 2 nd December 2020	Droncit
Wednesday 6 th January 2021	Drontal

Regular weighing - it is important to keep a check on dog's weights to ensure correct dosage is being given.

All dog owners are responsible for worming their own pets. Please remember to contact the Veterinary Office and confirm this has been done. After normal working hours, please leave a message or email.

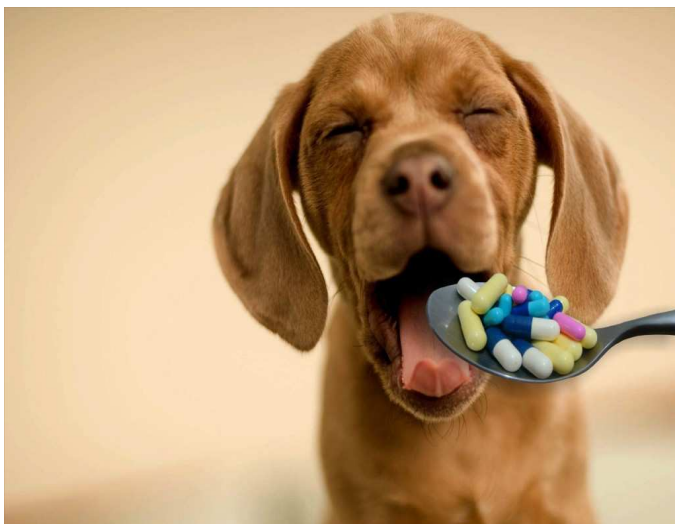
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**SEEN ANYTHING
STRANGE LATELY??**

**IF SO CONTACT THE
DEPARTMENT OF
AGRICULTURE ON
27355
OR VETERINARY
SERVICES ON 27366**

Disease Statistics from the 2019/20 Export Season

By Steve Pointing SVO

Usually at this time of year (or a bit earlier) I analyse the disease statistics from the most recent abattoir export season and present the findings at Farmers Week. As that hasn't taken place this year I'll do the next best thing and give you a summary of this year's statistics below. The statistics refer to the period 01/07/19 through to 30/06/20 – so for the full year.

No of sheep killed in the 2019/20 season (2018/19 figures in brackets)

- Sheep for the export market – 40,408 (31,616)
- Cull sheep (some of which might meet export requirements) – 10,368 (11,310)
- Total adult sheep – 50,776 (42,967)
- YL – 3,070 (6,810)
- NSL- 1,181 (1,440)

Main categories of recorded conditions

- Condemnations
- Oedema/emaciation
- Contamination
- Caseous lymphadenitis (CLA, boils)
- Hydatids

Condemnations

- 2nd year when cull sheep have been submitted from start of season.
- No. of sheep condemned = 302 (cf 568 last year)
- As % of all sheep submitted = 0.5%; as % of adult sheep – 0.6%
- % condemned in 2019 – 1.3% so this year has seen an improvement.

Oedema/emaciation

- Cull animals submitted for slaughter this year were in better general body condition than those submitted last year.
- 103 sheep were recorded as having oedema or being emaciated (cf 457 last year)
- This is 0.2% of all sheep submitted for slaughter – so much better than last year (1%)

Contamination

- Sheep continue to be shorn prior to slaughter as in the previous season.
- % of contamination 2020 = 0.73% (cf 0.32% in 2019 and 1.8% in 2018)
- So, shearing prior to slaughter does appear to reduce the level of contamination. From a hygiene point of view, it would be better for this practice to continue.

CLA (Boils)

- 5854 cases of CLA recorded (this will be under reported)
- As % of adult sheep killed = 11.5%
- No significant change from previous year
- Farm with highest incidence – 28.0%

Hydatids

- 5 +ve cysts found between Jan 2020 and June 2020
- Same number as in previous 2 years
- All the +ve cysts this year were from 4 different farms and none of the same farms as were +ve in 2018 and 2019
- This shows that hydatids are still quite widely spread with no “focus” of infection.

Conclusions

From the veterinary/sanitary point of view the most recent abattoir season has been a reasonably successful one. It is pleasing to see that the number of sheep being submitted (particularly cull animals) had relatively few outright condemnations and fewer cases of oedema/emaciation than in the previous year. Contamination is more of an abattoir issue but the cleaner you can send your sheep into the abattoir the better the outcome is likely to be. Shearing the sheep just prior to slaughter is a very effective way of reducing surface contamination of the carcass as the dressing process proceeds. As far as CLA and hydatids are concerned then things are much as they have been for many years now – no great improvement and no major deterioration either. I suspect the incidence of CLA will only be reduced by a concerted vaccination campaign over several years and the incidence of hydatids is already at a very low level and getting it down to the zero level is proving to be an almost impossible task. Dom West is due to complete his PhD on this subject by the end of this year so, hopefully, that will shine some light on why we still haven't achieved full eradication over a period of more than 40 years.

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# **Flock Health Plans for Extensive Sheep Farming in the Falkland Islands**

By Ross Milner

## **Introduction:**

The greatest challenges in the Falkland Island extensive system of sheep farming are climate and adequate nutrition.

Farmers over the years become familiar with what to expect on their farms during good years and how adverse climate can affect bad years. They may become acclimatised to a situation where flock health is less than ideal and consider this as normal for their flock. An evaluation of flock health will reveal what is lacking and identify ways where better health can be achieved. Improving flock health can have significant economic and welfare benefits. Farmers can also compare their data with other farms (anonymously through a flock health scheme) to see if there are any differences, for example in lamb mortality or quality of wool, and if significantly lower, identify ways this can be improved by learning from the successes of others. A year on year comparative analysis of figures from the same farm will also give early predictive warnings of when conditions are likely to become more challenging and adapt

the plan for flock health accordingly.

## **Why do I need a flock health plan?**

A flock health plan that improves the health of the flocks can have many benefits including;

- Improved ewe reproduction
- Increased progeny fleece weight
- Increased lamb survival
- Improved ewe health and survival, especially pregnant ewes but also the rest of the flock
- Increased production and tensile strength of wool
- More effective use of feed resources
- Improved ram fertility and reproductive ability
- Improved financial returns for wool and meat production
- Improvements in animal welfare
- An overall improvement in profits by as much as 30% if breeding ewes are kept in the right condition at the right time

## **I only see my sheep once a year at shearing time, is a flock health plan really for me?**

A flock health plan for extensive systems needs to be tailored to each individual farm. Some farms will only see sheep once or twice a year at shearing time and lamb marking while others are seen more frequently for example during pregnancy scanning and at joining.

Sheep that have little human contact become severely stressed when handled and this can disrupt reproductive and maternal behaviour. Good sheep handling will reduce stress and improve flock health and is discussed further in the section on good shepherding.

A flock health plan should not be onerous and make good use of existing data available to the farmer.

## **The following data is available, even to those who very rarely see their sheep as follows:**

### **1. Wool Data**

a. Using wool data to forecast future economic benefits of better flock health.

Individual sheep's mid-side samples are either submitted for testing to the New Zealand Wool Testing Authority (NZWTA) laboratory or done in-house by The Department of Agriculture (DoA) staff using the Optical Fibre Diameter Analyser (OFDA2000) to ascertain the individual wool characteristics i.e. micron, coefficient of variation of the diameter, length, comfort factor, etc. Good wool data does not necessarily mean that flock health is good as sheep with good genetics can produce good wool despite being in poor condition though the wool will show "poverty fine" characteristics. The wool data can however be used to calculate the long term economic benefit of improving the health of the pregnant ewes. By ensuring pregnant ewes do not drop below the required Body Condition Score (BCS), the lamb foetus will have the best opportunity to form a "productive skin", that is, a higher ratio of secondary follicle development to primary follicle development – it is the secondary follicles that are the fine wool fibres that will provide preferred economic benefit in the sheep's lifetime.

b. Using wool data to review current health of your flock over the past year.

Poverty fine wool shows a very obvious break in the staple and with not much effort can easily be broken. If your sheep come into the shearing shed looking poor, you can almost guarantee there will be an obvious break in the wool. The OFDA2000 has an objective test called FPFT (Finest Point From Tip) which shows where the finest fibres in the staple are and therefore, the likeliest place for it to break. It can also be gained in testing through NZWTA using POB (Position of Break) which gives a % reading of the finest point along the individual staple and again, showing where the break will be.

The fascinating thing with this type of testing, especially with the OFDA2000, is that you can see the profile of each sheep's annual nutritional stress/weather stress/assumed time of weaning etc. over the last year as to test each batch last shearing dates/birth dates and recent shearing dates have to be entered prior to testing - awesomely powerful information for our growers to use as a management tool.

### **2. Abattoir Data**

Probably the most detailed examination of the health of your sheep occurs when sheep are sent to Sand Bay Abattoir. Every sheep has a veterinary surgeon carry out an ante mortem and post mortem inspection, any carcasses with disease are noted as well as carcass weight, and fat thickness is measured with a probe. A report is sent to farmers with valuable data and an indication of flock health status. For example if cull ewes are submitted in the winter and are in reasonable body condition, this bodes well for pregnant ewes, but if they are very thin in autumn, this may provide an early warning and indicate a review is needed for pregnant ewes, stocking density, and pasture management. If cull ewes are consistently very thin when sent to the Abattoir in the winter, a flock health plan may need to consider sending cull ewes to the Abattoir earlier in the season on both welfare and economic grounds, conserving grazing for pregnant ewes as well as getting higher return for cull ewes before they lose too much weight in the winter.

If there is a high or increasing incidence of boils using a year on year comparative data this serves to indicate that flock health measures need to be considered to reduce this, for example culling of older ewes, and keeping young ewes separate from older ewes at shearing or vaccinating at least the most valuable breeding stock as a minimum.

### **3. Weather Data**

Weather data can be used to plan ahead and make provisions for severe weather. Shearing should be delayed where there are severe weather warnings or when ewes with lambs at foot need more shelter. Long range weather forecasts can give an indication whether it is going to be a bad or mild winter and you can plan accordingly.

### **4. Lambing Percentage**

Lambing percentage, longer term lamb survival, growth rates and fleece quality can all be considered under a flock health scheme.

If farmers are below the national average, when compared to other farms with similar geography, flock health can be reviewed to see where production can be improved. High achieving farms should be looked at to see what the keys to success are and whether these can be passed on to other farms.

### **5. Quality of Pasture.**

A year on year assessment of quality of pasture will help prepare for winter and any further measures that may be needed to preserve the quality of pasture when it is needed most.

The DoA Agronomist is available for advice on pasture management and improving quality of grazing. A new app. developed for Falklands Conservation to monitor grass length and density in recovering minefield sites from satellite imagery could have potential for farmers to monitor the quality of grazing on their farms and plan accordingly. Satellite imagery can also have a variety of other benefits, indicating where soil erosion is occurring for example.

When there has been a bad summer and pastures are below average, more culling of cull ewes may be needed early on if winter grazing is likely to be poor.

### **I would like to invest more time in improving flock health, what do I need to do ?**

The ideal plan would need to use data to assess what is currently being achieved in terms of flock health and a bench mark figure as to what could be achieved with improvements in flock health.

A flock health plan should include :

1. Requirements for shelter.
2. Determine if there are any mineral deficiencies and appropriate supplements if needed.
3. A programme to manage and control internal parasites.
4. A programme to prevent or control diseases such as orf and caseous lymphadenitis (boils).
5. Improve lambing mortality through enhanced breeding, good shepherding and ewe and ram nutrition.
6. Body Condition Score livestock, especially during pregnancy to ensure adequate nutrition is maintained.
7. Scanning of ewes and separating out those that are not single lambs as they will need more nutrition.
8. Improved pasture management and targeted supplementary feeding when needed.

### **1. Requirements for shelter in the extensive system**

Poor nutrition and lack of shelter are the two biggest causes of lamb mortality.

Fencing off of smaller paddocks that have the best grazing and shelter should be considered if lambing percentage is poor, and reserved for lactating ewes when energy requirements are highest.

Where farms are exposed with little shelter, peat walls and hedges have proven essential to provide shelter from wind chill in cold and wet conditions.

When conditions are cold, wet and windy the energy requirements to maintain body heat

increase dramatically, as much as fourfold. Identifying sheltered areas and using weather forecasts are critical for ewe and lamb survival and keeping energy requirements down at a time when grazing is poor and in short supply. Anticipating bad weather and moving lambs to more sheltered pastures when needed can be of significant economic benefit. Some farmers with exposed flat pasture with no natural shelter have built peat walls and have commented these do get used during cold, wet and windy weather conditions. Lamb jackets that will reduce lamb mortality are labour intensive, but are used by some farmers in the Falkland Islands for valuable breeding stock. Lamb jackets are widely used in exposed high altitude Welsh hill farming in extensive conditions with climatic conditions considerably colder and wetter than the Falkland Islands, yet lambing percentages are significantly higher in comparison.

At other times of year, fat ewes at non critical periods can cost money in terms of wasted pasture, but thin ewes at non critical times of the year are much less likely to survive during winter.

## **2. Mineral deficiency in Falkland Islands sheep**

Mineral deficiencies can vary from one farm to the next and in the West compared with East Falklands. Cobalt deficiency has been well documented in the south part of West Falklands but other minerals are highly variable from one farm to the next. Strategic blood sampling or liver sampling at the abattoir can be useful to assess if any deficiency exists on the farm. Mineral deficiencies can have a significant effect on fertility, wool quality and growth rates. It is important to identify if any deficiencies exists as remedial supplementation when needed can significantly improve flock health.

## **3. Internal parasites**

With global warming, parasite problems are likely to increase in the Falkland Islands. Monitoring parasite burdens, particularly in growing lambs can have significant benefits on flock health and is a free service provided by the DoA laboratory. Worm infestations can stunt growth rates and increase lamb mortality. Even if lambs are routinely wormed it is well worth submitting samples to the laboratory before and after worming to check for any

worm resistance. The DoA can give further advice on rotating the type of wormer used and pasture management. There is also a potential cost saving as sometimes it is not necessary to worm sheep with low parasite burdens and target worm medicines to be used only when needed.

## **4. A programme to control animal diseases e.g. Orf and caseous lymphadenitis (boils)**

Orf is a viral disease that can debilitate lambs when it gets on their mouths as it can affect their ability to suck, and can be very painful when it occurs on ewes teats, causing a reluctance to feed lambs and an increase in lamb mortality. Various strategies for prevention and treatment including vaccination where the problem is severe can be discussed with the DoA Government Veterinary Officers.

The incidence of caseous lymphadenitis on the farm can be monitored with the feedback report from the Abattoir. Where it is high, preventative steps can be considered to reduce the incidence of disease or vaccination. It is a good idea to have a good biosecurity policy on the farm, especially one with few or no boils or orf or where a disease reduction plan is in place. In a closed flock system import only vaccinated disease free livestock to preserve the flock health status. A flock that has accredited disease free status can have a significant increased value when selling livestock to other farmers.

## **5. Enhanced breeding and good shepherding**

Extensive sheep farming requires rigorous selection for ease of lambing, strong maternal bond, good lamb survival and minimal shepherding intervention. Human intervention at lambing can delay or extend the birth and disrupt the ewe lamb bond.

The philosophy at lambing should be maximum supervision with the minimum of interference.

In extensive systems in South America and South Africa, drones for surveillance of sheep some distance from the farm settlement have proved very useful, for example to promote early detection of lamb mortality, or weak lambs in significant numbers or predator issues that requires intervention at a whole flock level. Potentially a farmer could sit in the comfort of his heated 4x4 and use a screen to

observe his flocks using drone surveillance, saving considerable time and effort monitoring sheep and improving the level of surveillance considerably.

If dystocia is present, for example a ewe in labour for an hour or more with no lamb, a lamb stuck half way out or is blood stained or wet behind with no sign of a lamb, intervention should be considered. Sheep that suffer from dystocia or prolapse can have this as a heritable trait so they and their offspring should be considered for culling at a future date.

Good shepherding skills are critical to all sheep farming systems including extensive ones and involve being aware of sheep welfare needs and safeguarding them in all conditions.

The three essential components of a good stockman: are observation, interpretation and action.

The stockman is responsible for health, adequate health nutrition and handling.

Sheep that have little or no human interaction can get extremely stressed when handled and this can adversely affect reproductive and maternal ability. It is however possible to condition sheep to certain handling procedures. They quickly learn to avoid negative handling experiences and seek out positive stimuli, for example offering of food or moving to green pastures after handling. It has been demonstrated that sheep have long memories and will remember both positive and negative stimuli for years afterwards. It is also possible to train leader sheep to use handling facilities and other sheep will follow them, minimising stress for sheep and time and effort for shepherds.

The three options to reduce handling stress are:

- Making the treatment less severe
- Changing the sheep's perception of the treatment
- Breaking the link between being handled and receiving a negative treatment

## **6. The benefits of condition scoring livestock and targets to achieve:**

The aim of condition scoring is not to test every ewe at every stage of pregnancy, a random sample of 25 sheep can be separated from a flock and condition scored at times when the flock is not being routinely handled.

## **At joining**

Aim for a condition score of 3 to improve conception rates. Ewes at condition score of 2 or less at joining have a conception rate that is as much as 40% lower. Ewes in lower condition score could be drafted from main mob and given better grazing for at least three months to improve condition or consider running them as dries for a season rather than risk losing them and their lambs. Fat ewes with condition score of 4 or above have a lower conception rate.

## **Pregnancy up to day 90**

NB- avoid handling ewes for first 30 days

Aim to keep condition score 2.5 to 3.

During the first month embryo implantation occurs. Embryos are very vulnerable and up to 25% will perish, especially during atrocious weather conditions. Good nutrition and minimising stress in the first 30 days of pregnancy is crucial. Sheep should not be handled during this period to avoid stress.

If ewes lose condition at this stage this results in a smaller placenta, smaller lambs and higher lamb mortality. Wool diameter of lamb's wool will increase permanently. Playing catch-up once this has happened is very difficult if not impossible.

Ewes that maintain condition score 3 will produce a wool diameter in lambs that is 0.2 microns finer than those that loose half a condition score.

Consider scanning ewes at day 80 to enable separate management of single lamb ewes from those with twins in late pregnancy and lactation.

## **Late pregnancy**

Try to maintain single lamb ewes at condition score 3 and those with twins at 3+. Lambs will on average be 0.45 kg heavier than those ewes that have lost condition and are condition score 2. Single lamb ewes will have a 50% increase in energy requirements, those with twins 80%. Good nutrition at this stage will result in lambs having increased number of secondary wool follicles and have a permanent effect on density and fineness of the fleece for the rest of the lambs life. Ewes with a condition score of 4 or higher however will lose their appetite in late pregnancy and are prone to pregnancy toxaemia.

## **Lambing**

The first 48 hours of a lamb's life is critical, this is when 70% of lamb mortalities occur.

A merino lamb should weigh between 4.5 and 6 kg to have a better chance of survival.

Ewes in poor condition are more likely to become exhausted and have longer lambing times, increased dystocia, and impaired maternal bonding with lambs and less colostrum and milk. Lambs will take longer to stand and suck, are smaller, and consequently mortality rates will be higher.

Ewes with a condition score of 3 at birth will have on average 20% more lambs surviving than those in condition score 2. Vulnerable ewes need increased access to good pasture and shelter and should be managed separately where this is possible.

Conversely, in a good year, those ewes in condition score 4 will have increased risk of lambing difficulties (dystocia) and pregnancy toxemia.

## **Lactation**

Keeping ewes in condition score 2.5 to 3 will have fat reserves they can draw on, meaning more milk for longer, better lamb growth rates and better lamb survival post weaning.

## **Weaning**

Lambs should be 45% of adult live weight at weaning and need good growth rates to have survival the following winter.

## **Post weaning**

Aim to keep ewes in at least condition score 3 + taking good advantage of summer grazing so they are in optimal condition score for joining.

Overall maintaining ewes in good condition score 3 results in lambs having a lifetime average of 0.7 kg more fleece than those ewes of condition score 2 and a better micron diameter of 1 micron and an improved staple strength of 4 to 5 N/ktex.

This may require careful management of stocking rates on pasture in order to achieve targets and maximise profitability.

Condition scoring is a simple and accurate way of monitoring flock health, it need not be labour intensive, 25 ewes can be randomly selected from a mob to be condition scored and allows decisions to be made on pasture management

and feeding.

## **7. Pregnancy ultrasound scanning**

The use of scanning represents one of the most significant advances in the management and welfare of sheep in extensive systems in recent years.

Pregnancy scanning provides a useful opportunity for dividing ewes into 3 groups: single, twin lambs and barren ewes. This is also a useful opportunity to condition score to identify those ewes that are in poor condition and need additional feeding or culling.

## **8. Pasture management and targeted nutritional supplementation**

Due to geographical isolation and high import costs, supplementary feeding needs to be considered very carefully in terms of farm economics but animal welfare is also paramount.

Various options for supplementary feeding currently used by Falkland Island farmers include fencing to preserve best pastures for when needed most, imported concentrates, production of silage and root crops where soil conditions allow this, and also re-establishment and conservation of tussock combined with other natural grasses where the soil is fragile and not suited to crop production.

Advice on pasture management and improvement is available from the DoA Agronomist.

Increasingly in other parts of the world, online flock health plans are being used, even for remote extensive flock health systems, where both farmers and their advisors can input data. Flock health plans are used to identify and find solutions for flock health issues and have been proven to result in significantly better flock health, welfare and profitability.

# Farm Visits West Falklands

By Matt McNee, Andrew Bendall & Tom McIntosh

As part of the Department of Agriculture's (DoA) "2020 Farmers Week at Home" a group of DoA staff hit the West in Convoy on the 13<sup>th</sup> of July. Camp for the next couple of weeks was based at Fox Bay, with Matt McNee & his family at "Coast Ridge Cottage" and Andrew Bendall, Rhonda Moore & the rest based out of the "Black Shanty". Needless to say there were a few more down at the Fox Bay club each Sunday night which was a great chance to chew the fat.



*Departing from New Haven*



*Heading out of Fox Bay West*

## ***Increasing our familiarity with farming businesses***

We aimed to increase our familiarity with the unique characteristics of each business so that we can build a programme of tailored support in the future. The DoA team had developed some charts with information we thought useful to the landholders who had requested a visit. Matt & Andrew presented these at a total of 15 visits during their stay representing a total of 17 farms. Guided by the land-holders own interests we introduced the following information in no particular order,

- **15 year farm production trends:** This related to sheep numbers, wool production, lambing percentages & death rates.
- **18 year median wool price trend in relation to fibre diameter:** This led to some good discussion about wool characteristics and the robustness of sheep.
- **The Falkland Islands Soil Map:** We examined each farms soil map and explained the different layers that were available like soil pH and bulk density. This exercise proved to be particularly useful to discuss current land use and management (e.g. performance of lambing camps, grazing rotations) and to discuss opportunities to improve land (see 'Investing in the Land' below).
- **Farm gross margin spreadsheet:** The key message here was that we can break down the value [wool, meat] of each animal enterprise by age group and then calculate gross margins. This is provided we can assign realistic agricultural production costs which may vary widely. There was much interest in this with recognition that it could be a very useful tool for decision making and developing a sustainable farm business model for the future.
- **Forage production possibilities graphs:** The 'yield gap' concept was introduced. This compared achieved and attainable yields for grass pastures, whether that be on re-seeds or native greens. Valuable discussions were had about how to quantify the yield gap and what practices were available to bridge the gap.

## ***Investment in natural capital on farms***

An interesting debate frequently arose about how to invest in the natural capital (e.g. soils, forage

species) on the farm. This demonstrated the care and concern that farmers have for the sustainability of their land. The Falkland Islands is somewhat unique in that all land is valued the same. Yet, through our discussions it was apparent that on most farms up to 30% of the land area was more productive than the rest. This is the 'engine room' for productivity and we found that there was a healthy appetite to adopt agro-ecological intensification strategies on that land to feed sheep better. This was most apparent on farms that had 'tight' rotational grazing with limited options to adjust rotations for ewes and their progeny when land was under pressure. However, it was also viewed favourably by some of the larger farms that didn't have large areas of fine grasses.

Some of the agro-ecological investment options discussed with farmers included,

- **"Cell-grazing" style management:** Increasing fencing more productive areas into small paddocks and using grass recovery rates as an indicator to move sheep.
- **Grass canopy management:** Using hoof and tooth to break down the white-grass canopy and encourage fine grasses.
- **Protection areas:** Identifying areas to increase plant species diversity, when the topography or a plant species (e.g. cinnamon grass, blue grass, tussock) provides shelter from wind, as well as additional moisture retention for fine grasses or legume forages.
- **Widening the sowing window:** Utilising more of the year to sow forages using methods like 'frost-seeding' small seeded species like lotus and red clover.
- **Soil engineering:** Bringing degraded land in the engine room back to productive use. This might involve practices like ad-mixture of the clay subsoil with thin peat topsoil, or various methods to overcome water-repellent soil.
- **Calcium-based soil amendments:** Using calcified seaweed or lime to raise soil pH, improve the uptake of nutrients by plants and have lifetime benefits for animal condition and productivity.

It is our view that investment in the 'engine room' is paramount for ewes and young sheep in a rotational grazing system. However, the other larger camps play a vital role in a system capable of managing grazing pressure in the 'engine room'. These camps are generally higher risk and require on-going investment in ditching and fencing to minimise deaths and arrest losses in sheep condition.

So the question we took home was how can the DoA support farm businesses to develop a long term investment strategy (10-15 years) with the right balance between intensification and mitigation of risk.

The marginal return from investment in land type would be more transparent if there was a 'true' price signal for land value on farms i.e. different areas of the farm are worth more or less, attract different levels of debt servicing and would also differ in their improved value. The farm soil maps are a step in the right direction to valuing land.

Despite the absence of those financial cues, there was broad agreement that the DoA has a role to support individual farm businesses to make informed choices. Some of the supporting actions might include supporting land owners to develop their own,

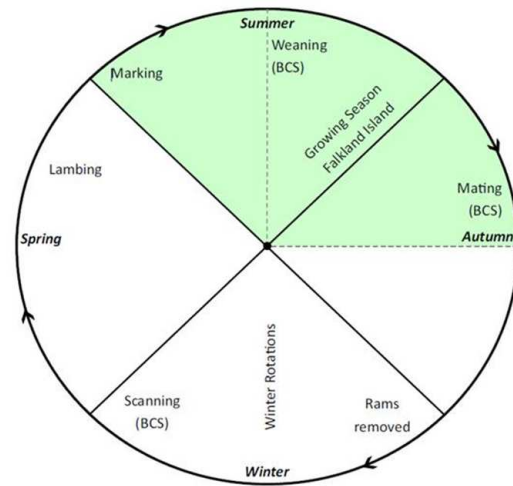
- **Decision making criteria for investments and adoption of technology / practices:** labour productivity, soil health, marginal £ returns on investment.
- **Performance based valuation of their land types:** value of land = time on land x gain in value x number of sheep.
- **On-farm experiments:** To reduce uncertainty about value creation with various investments.
- **Agro-ecological monitoring program:** Soil and pasture quality monitoring using digital technologies like photo-standards, sensors etc.

## A systems approach It Starts where it Starts

This is a 'paradigm' in the 'systems' approach which begins with a focus on ewe selection and can be best described as an evolving process of events.

What a 'systems' approach creates is measurable key performance indicators

- **Ewe weight & body condition (BCS) at weaning:** Important to distinguish between those who have reared lambs & those who haven't.
- **Ewe BCS at mating:** Having ewes going ahead will not only improve conception but increase potential lamb birth weight.
- **Ewe BCS at scanning:** It is the last trimester of pregnancy which really does set up the life time performance potential of an animal.
- **Measuring BCS:** at these three times allows for the opportunity to take action to improve the nutrition of the poorer ewes.



Improved ewe 'Body Condition' will be the single biggest influence you can do to help improve

- **Survival rates in ewes & lambs:** Better conditioned ewes have more milk, heavier lambs and are more maternal. Lambs are born stronger and more are vocal which aids mother - lamb bond.
- **Weaning weight in lambs:** More milk, better immune system and more robustness.
- **Young stock growth rates post weaning:** Lambs that have had a good start to life grow faster and are more resilient.
- **Wool quality & quantity:** Lambs from well-conditioned ewes especially in the last trimester of pregnancy will have better life time wool performance.

## Documenting and raising wool production standards

- **Quality Falkland Wools (QFW):** It's primary focus is on wool quality, influenced by actions and preparedness within the woolshed. (Skirting, classing, bale branding & presentation)
- **Responsible Wool Standards (RWS):** It has a wider focus than QFW and encompasses an entire land management plan incorporating animal welfare & environmental stewardship. It is an opportunity for farmers to demonstrate their best practice to the public, and a means for brands and consumers to have certainty that the wool products they buy and sell are in line with their values.

## Other activities on the West

Lucy Ellis & Tracy Evans spent a few days over on the West visiting the three organic farms on the Falklands and conducted their annual audit to keep them up to date for the Australian Certified Organic Program.

The purpose of these visits is to review their organic management plan to ensure any updates or changes involving their certification have been included in their new plan.

Tom McIntosh also spent time over on the West incorporating farm visits with Matt and Andrew and also visiting Pebble and Saunders Islands. Tom's summary of the tour was that:

"The hospitality was incredible and I had the chance to talk to farmers in their kitchens, social club and shop. The visits incorporated a farm tour on which all aspects of farming were discussed, particularly grazing management, including stocking methods and regimes, diddle dee die-back, and reseedings which were established in the past and how best to utilise these. It was interesting to see some advice that was given in the past such as establishment of the legume lotus was still persisting on Saunders Islands and when investigated there was some indication of nitrogen

fixation as the nodules were pink.

In summary it was an excellent opportunity to see farming on the West and on two Islands in order to see how the DoA can best support the farming community going forward.

### ***What you requested from us***

Through our discussions there were a number of things that were requested of us

- **Skills training:** Animal condition scoring, wool preparation
- **Support with on-farm experimentation (OFE):** Of the 15 farms visited, there were 7 OFE's discussed where the farmer was planning to take action with support from the DoA's Farmer-based Research Program. A more detailed article on this will be included in the next edition of the Wool Press.
- **Connections with specialists abroad:** Sheep genetics
- **Record keeping sheets:** Camp records, animal condition / health
- **Soil sampling and analysis:** To ground truth characteristics seen on the soil maps
- **Farm financial spreadsheets:** Farm gross margins

### **Our next steps**

- **Call-back:** Once there's been time for discussions to settle you will get a call from us in case there's anything you have thought of or have any feedback on your visit.
- **Value creation:** Explore opportunities for specialisation in farming enterprises and the development of 'producer groups' or collaborations. Compare common interests and different capabilities > the possibility that some farms are suited to specialisations e.g. dry-stock farms, finishing farms etc. How do we foster a business environment that creates more value in Falkland Islands wool well into the future? To do this we need to continue to work on an individual business basis but also start to identify and knit together the opportunities for collaboration e.g. producer groups.
- **Farm business task reports:** We want to have a library of farm business task reports so that future advisors can pick up the slack and hopefully work with you on a long term investment plan.
- **Develop a co-learning process:** This was our first experience working with the farmers in a structured way on the Falkland Islands. We learnt a lot and we hope you did to. However, just like any relationship building exercise it requires work. We will continue to work with you to have the best interaction as possible with your business.
- **Taking action now:** A number of farm businesses are ready to take action. We will continue to provide support through the Farmer-based Research Program.
- **Responsible Wool Standards:** The DoA & Wool Innovation are working together to create some 'farmer friendly' guidelines on how best to start incorporating RWS in conjunction with your on farm investment plan.
- **Soil mapping:** There was much interest in the soil maps. We will work to demonstrate how this tool can inform decision making. You should be receiving your SAERI soil maps soon!

With this in mind we openly invite all farmers who have not had a visit, particularly those on the East, to please email or phone the DoA and speak with Katrina Stephenson.

We recognise that the East may have very different needs to those that we encountered on the West and we look forward to finding out!

# Trace Element - Selenium (Se)

By Zoe Fowler

## **Selenium (Se)**

Following on from the article about interpreting trace element blood results, here is the first of several articles looking at each element in more detail. Get a cup of tea – this goes on a bit!

## **What does selenium do?**

The most important function of both selenium and vitamin E (a close friend of selenium) is the antioxidant function which gives protection to biological cell membranes. Selenium is important in deactivating free radicals which can damage the cell membranes and, without protection from selenium and vitamin E, there is damage and cell death. Muscle cells can be affected causing the signs of White Muscle Disease (WMD) (see below). Selenium and Vitamin E are also important for the immune system and the maintenance of resistance to infectious disease. Selenium supplements have been shown to enhance antibody responses to a variety of antigens in sheep. Selenium is also involved in the regulation of thyroid metabolism so selenium deficiency might exacerbate an iodine deficiency. Selenium also seems to be important for efficient reproductive function but the mechanism by which it improves fertility is not completely clear. What is clear however is that conception rates are better and lamb deaths are less, in flocks that have satisfactory selenium levels.

## **How does Selenium exist in the body?**

Anything from a fifth to over half of selenium that is ingested is absorbed by the gut and the amount absorbed is greater in selenium deficient animals. Absorbed selenium is associated with albumin (a protein) and transported to the liver where most selenium is incorporated into amino acids and is present in animal tissues as seleno-amino acids or seleno-enzymes. One such seleno-enzyme is glutathione peroxidase (GSH-Px) and this is one of the main forms of selenium that neutralises the free radicals. GSH-Px is present in most mammalian tissues, including red blood cells, so levels in the blood can be

measured. This is why when we test selenium levels we measure the animals red blood cell levels too, because if the animal has abnormal red blood cells levels (e.g. due to internal parasites or dehydration), selenium levels that are measured will be affected. There is a strong correlation between the level and activity of GSH-Px within the red blood cells and the concentration of selenium in whole blood. Liver selenium concentrations are also well correlated to blood selenium concentrations especially at the lower end of the ranges where diagnosis of deficiency is of interest. You may remember from the previous article these selenoenzymes such as GSH-Px are incorporated into the red blood cell when they are made and because red blood cells live for 3-4 months the level of GSH-Px tells you what selenium levels were like several weeks/months ago when the blood cells were made. The selenium that is NOT involved with the red blood cells can be measured in the plasma and measurable levels change much more quickly depending on selenium intake. So the point of measuring plasma selenium AND GSH-Px is to compare what selenium levels are like NOW, compared to several weeks or months ago, giving you an idea if selenium intake is increasing or decreasing over time. The major route of normal selenium excretion is via the faeces.

## **What is the Selenium/Vitamin E relationship?**

Like selenium, vitamin E has a role in the prevention of free radical-initiated cell membrane destruction. The relationship is complex but it is known that the effects of selenium and vitamin E are complementary and to some extent excess of one can compensate for deficiency of the other.

## **Signs of deficiency**

Signs of deficiency can be vague and can be similar to symptoms seen with many other trace element deficiencies and diseases. Young sheep may be unthrifty and reproductive efficiency may be low (as rams and ewes are affected and there is increased lamb loss). Severe selenium deficiency

causes embryonic mortality 3-4wks after conception. Sheep appear to be more sensitive to infertility caused by selenium deficiency than cattle. Following studies in New Zealand it is thought that the most economically important selenium responsive condition is ill thrift and poor growth. An increase of 30-50% wool weight has been seen in selenium supplemented lambs. Studies in USA and UK have shown more retained placentas and cases of mastitis in herds of cattle with low selenium status. In contrast a NZ study of grazing cows (vs cows housed for a lot of the year) found no relationship between mastitis and selenium status. Many cows in NZ would be considered selenium deficient by northern hemisphere standards (see pasture recommendations below).

**White muscle disease (WMD)** is a more obvious disease process and is characterised by degeneration and necrosis of the skeletal and cardiac (heart) muscle. Lambs with congenital WMD are born dead or die suddenly within a few days of birth. A delayed form occurs 3-6wks after birth. Signs of WMD can appear suddenly either during or following exercise when the animal becomes stiff and unable to stand, without treatment this progresses to death fairly rapidly. Animals showing signs of WMD have very similar blood levels of selenium and GSH-Px activity to normal animals, so these parameters cannot be used to predict the condition. Therefore WMD is mostly diagnosed on clinical signs seen and at post mortem when heart and skeletal muscles are seen to have distinct white lesions, often calcified and muscles may look like cooked chicken flesh.

### **How can I test for selenium levels?**

**Selenium level in animals** is best measured in blood or liver samples. You only need to sample 6-10 animals from a mob to give an overview of the average mob status. We do need to send these samples to UK for analysis and given that they need to be transported cool, the courier costs can be high. A trace element screen (copper, cobalt, zinc, selenium) costs approximately £20 a sample but the courier costs can be about £300 so we try to save samples and send several batches together to keep costs down.

Mature animals should be tested for selenium levels in autumn before tupping. Blood can be

taken from lambs at any age because in a selenium-deficient flock the changes in blood selenium from birth to weaning are small. Taking blood from 1 week old lambs can identify any deficiency so supplementation can be given at docking (assuming you can get results in a timely manner). Because signs of deficiency are vague and there is a small risk of toxicity if selenium levels get too high it is probably prudent to try and get a baseline level of selenium before embarking on any intensive supplementation programme. However, un-supplemented animals in the Falklands are very unlikely to have high levels of selenium naturally so testing before a trial probably isn't essential. Native soils and forages also have low calcium which affects the digestibility and absorption of selenium which increases the levels that may be required.

Soil and foliage can also be tested for selenium levels but again, these samples would have to be sent overseas. Testing selenium levels of animals is the preferred method of diagnosis of selenium deficiency, compared with soils and plants but blood and liver selenium levels are not 100% reliable for detection of marginal or sub-clinical deficiencies (e.g. weakness of the immune system or reproductive loss). Also, blood and liver tests don't provide an accurate indication of skeletal muscles levels. Some advocate for testing selenium levels in wool in addition to other tests.

To prove selenium deficiency, dose responsive trials are the only means of assessing the worth of regular supplementation.

### **What level of selenium do animals need?**

In general, total soil selenium is considered deficient if it is less than 0.6mg/kg. Based on studies in NZ the recommended pasture level of selenium for grazing sheep and cattle is 0.03mg/kg of dry matter. Concentrations in pasture of less than 0.02mgSe/kgDM result in low levels of glutathione peroxidase in animals. This value of 0.03mg/kgDM has been shown to be adequate in a number of studies despite being ten times lower than the northern hemisphere recommendation of 0.3mg/kg DM. This may be because pasture naturally contains more vitamin E than concentrates and hay based diets that lose vitamin E during storage. As pasture contains adequate vitamin E, animals can cope with a lower selenium level. Studies

show that there will be no significant response to selenium supplementation when pasture selenium concentrations are over 0.03mg/kg DM. Animals are well protected from deficiency disorders when crops and pastures contain more than 0.1mgSe/kgDM.

In animals grazing pastures containing 0.03-0.04 mg/kg DM blood selenium concentrations usually range from 250-300nmol/L (0.25-0.3umol/L) and they can be much higher if supplemented (but the supplementation does not give any more physical improvements despite the higher blood concentrations). Therefore the 'deficient' level is that which is considered low enough for the animal to respond in an economically significant way to supplementation. A guide to what is considered deficient and adequate in sheep blood/tissue is below.

| Criteria                    | Deficient (nmol/L) | Marginal (nmol/L) | Adequate (nmol/L) |
|-----------------------------|--------------------|-------------------|-------------------|
| Whole blood Se sheep        | <130               | 130-250           | >250              |
| Serum Se sheep              | <52                | 52-100            | >100              |
| Liver Se fresh tissue sheep | <250 nmol/kg       | 250-450 nmol/kg   | >450 nmol/kg      |

### **What affects selenium levels?**

A number of factors affect pasture and animal selenium levels but ultimately the selenium level in plants is highly related to soil levels. Some plants are selenium selectors and concentrate the element many times in their foliage. Generally legumes tend to be lower in selenium compared to grasses but deep rooted plants such as dock and Lucerne accumulate greater amounts of selenium than shallower rooted plants.

Soil acidity reduces the uptake of Selenium by plants. Because increasing soil pH increases selenium concentrations in pasture, liming may be beneficial in improving selenium levels.

Seasonal variation tends to show lowest selenium levels in pasture when rainfall is heaviest and deficiencies in crops and pastures are often observed when plants have

a higher growth rate e.g. when spring conditions promote faster plant growth. This occurs because plants don't actually need selenium and there is a dilution of the relatively constant amount of selenium in soil available to plants. Consequently, we might expect that stock in spring lambing camps are at higher risk in seasons with more vigorous early plant growth.

Sulphur is chemically quite similar to selenium and a high sulphur intake may interfere with the absorption and metabolism of selenium but so far this antagonism only seems to be an issue when sulphur intakes are very low and then suddenly increased, which might occur with brassica reseed. This is unlikely to happen to grazing animals as pastures usually have adequate sulphur levels. Application of superphosphate or sulphur based fertilisers may influence the selenium uptake adversely so an intensive fertiliser programme may exacerbate low selenium pastures. It's not really known if this is inhibition of plant root uptake by sulphate or simply a consequence of increased plant growth rate diluting the available selenium (as mentioned above). This might have implications for re-seeded pastures that are used to feed young sheep.

There may be a relationship with copper.

### **How can I supplement with selenium?**

Selenium readily crosses the placenta so supplementing pregnant animals can improve the selenium status of the foetus and can enter the mammary gland and be secreted in the colostrum and milk.

Selenium deficient pastures can be top-dressed but this must be done properly with adequate weeks with animals off the pasture before grazing (3-4wks to allow the selenium to wash into the soil and be taken up by the herbage) and then adequate time actually on the pasture. Short term grazing of top-dressed pasture is not very efficient and it has been shown that animals only grazed for 3wks pre-mating and 8wks post-mating still had to have their lambs supplemented at docking. In contrast ewes that remained on the top-dressed area showed an adequate selenium level through gestation and lactation and the lambs had adequate selenium from birth to weaning. To avoid cumulative effects of selenium supplementation animals that have

grazed a top-dressed area should not receive other forms of selenium for at least 12 months after the application of the fertiliser.

Daily dietary supplements in feed and water are effective but hardly practical.

Sodium selenite is the usual form of selenium in a drench due to best bioavailability. Sodium selenate or selenite in oral drenches or in the form of water soluble short acting injections are only effective for approximately 4-7 weeks in sheep and the selenium present in mineralised worm drenches or clostridial vaccines is generally not useful as the effect is short lived and dosing is determined by the worming or vaccination requirement and therefore rarely given at the time when selenium is most needed. In more intensive systems where worm drenching occurs every 4-6 weeks it might be adequate.

A long acting subcutaneous injection containing barium selenate (Deposel NZ) exists and is a bit safer in terms of toxicity risk as the product is slowly released and gives a supply of selenium for 6-18 months.

Intra-ruminal pellets are also available for long term release and last 9-12 months. Intra-ruminal boluses are a very expensive means of supplementing with selenium but are a useful method where other trace element deficiency states occur concurrently. As selenium can be absorbed dermally a pour-on is available for use in cattle (Selpor NZ).

It is generally accepted that free-access licks/minerals are unreliable because of highly variable intakes.

The laboratory that we use at Nottingham Vet School advise that relying on selenium containing worm drenches is not effective at all (due to low levels of selenium and short time of activity) but some other sources suggest that supplementation of growing lambs is best achieved by drenching, often in combination with anthelmintic treatment. If you are just growing lambs to send to the abattoir at a young age this might be an appropriate course of action but for more significant deficiencies across the whole flock, longer term, longer acting, solutions will be required.

Selenium supplementation would be most

beneficial at the following times:

- before mating to improve fertility in both male and females as well as the selenium status of the foetuses
- mid-late pregnancy to provide extra selenium for the rapidly growing foetus and to maintain the selenium status from birth to weaning and to increase selenium in milk
- in young growing animals from un-supplemented dams to prevent ill thrift and WMD

### **Toxicity**

Over-supplementation can lead to toxicity and animals that are grazing selenium dressed pasture or have had long acting injections or boluses should not receive further supplementation for 12 months. Chronic toxicity is associated with loss of appetite, lameness, poor growth and wool production, delayed conception and blindness (so very similar signs to deficiency!) and acute poisoning shows symptoms such as fever, increased heart rate, watery diarrhoea, haemorrhage, oedema and death due to circulatory failure. Blood selenium concentrations of 10,000-13,000nmol/L (10-13umol) are considered to be in the toxic range and no results from Falkland Island (FI) animals have ever been anywhere near this high so if animals have not been supplemented within the past year I think supplementation could occur quite safely without the risk of toxicity.

### **What is the Falklands situation?**

Variable!

Blood sampling from a few farms over the last few years in the FI have shown that overall on some farms selenium status appears to be adequate but some results showed that the majority of animals in the mob had sub-optimal or marginal levels and even mobs with adequate levels often showed that levels were on the decline. Unsurprisingly, levels at the end of summer appeared a bit better than levels measured mid to end of winter. It must be remembered that selenium levels will naturally vary with time of year and the diet the animals are receiving so a one off blood sample can only tell you exactly what the selenium level is at the time of sampling – not what it will be all year round.

# Saladero News June - July 2020

## Winter Mode

By Andrew Bendall & Mandy Ford



*Frozen Pond at Saladero*

### Ewe Joining 2020

With a successful joining done, results graphed below, ewes have been on rotation and have maintained both body weight and condition, which bodes well as we have saved winter feed for the last trimester in pregnancy and lambing camps which have been spelled since April.

It seems that our swedes are proving to be very palatable to a large number of geese who have over the period of July eaten the tops off a large portion of the swedes and have now started on the bulbs.

The result being, that there is approximately 7-10 days less feeding available for a mob of 400 in-lamb ewes than anticipated. So what are our options now?

- Buy in supplementary feed
- Feed ewes as best we can through regular shifts and monitor any body condition loss
- Tighten up young stock and use some of their designated camps
- Set stock into saved lambing camps early and hope for a kind season
- Do nothing

All be it being on a small scale at Saladero, each of these options have their own set of costs and consequences, which we will explore and report in the next issue of the wool press.

| Scanning 2020  |              |       |        |      |                 |            |
|----------------|--------------|-------|--------|------|-----------------|------------|
|                | Total Joined | Empty | Single | Twin | Potential lambs | Percentage |
| MA Ewes        | 592          | 19    | 523    | 50   | 623             | 105%       |
| Shearling Ewes | 108          | 8     | 94     | 6    | 106             | 98%        |

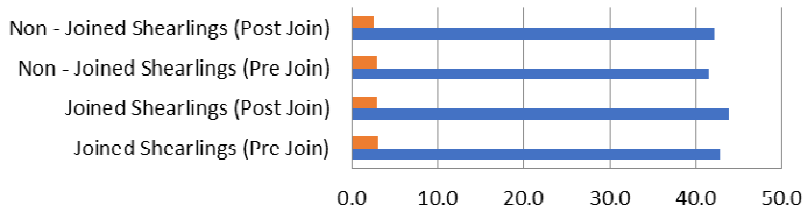
Rams were out with the ewes for just 2 cycles, and evidence from the scanners Zoe Fowler & Lucy Ellis indicate a good number of them are in lamb within the first cycle.

A Blue Beach ram was also used with a mating group in the 2<sup>nd</sup> cycle to enable across flock analysis between the NSF and Blue Beach.

A group of the shearling ewes were mated; both mated and non-mated shearling ewes will be tracked throughout their life time. Their performance and production will be monitored and recorded.

A first glance at some of the comparisons between these two lines can be seen in the table on page 20. The non-mated shearlings have been running with the ewe hogs and will stay with them until autumn 2021. The ewe hogs have been growing at a modest 30grams a day.

## Shearling Comparisons



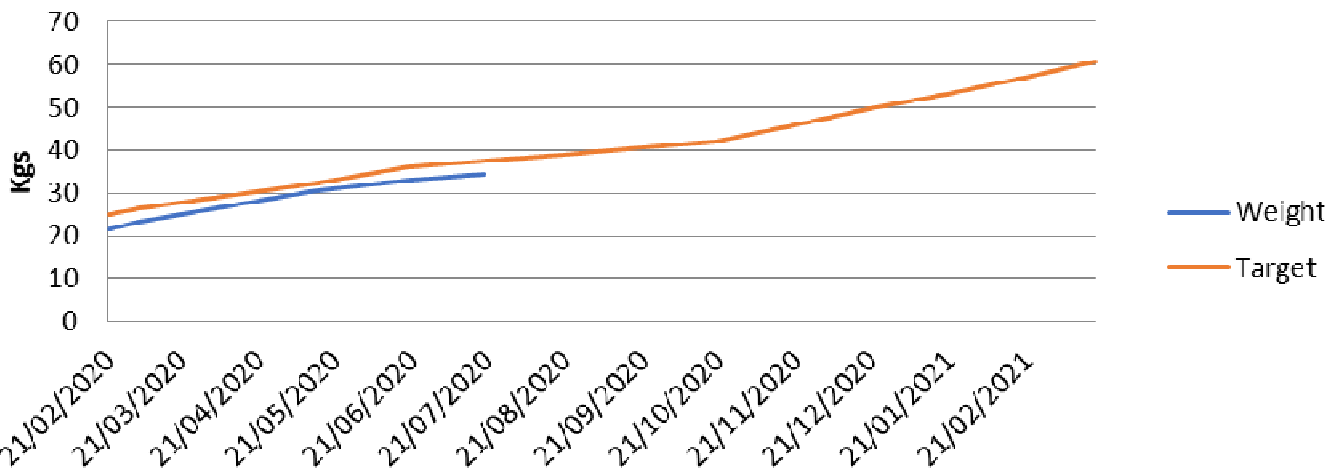
As seen from the figures in the table to the left, there is little difference between the two groups at this stage. As expected the joined group have continued to do well as there has been a concerted effort to maintain condition on the ewes through mating and pregnancy.

The true difference will become more evident early next year after weaning, followed by conception rates next autumn.

Ram Hoggets have been growing at 53 grams per day, aiming to have them continue at this growth rate during winter ready to take advantage of the spring later in the year.

Ram Hoggets July 2020

## Ram hogs



With the cattle now gone, they did leave a trail of broken gates and fences behind them. Mandy, with the help of Kia Alazia, has been fixing these along with utilising some extended low tides to repair fences and crates in these areas.



August - September, the business end of winter. This is a critical period to keep monitoring stock condition and animal health as feed available becomes scarce and stock are using body fat reserves to survive. The health & robustness of our breeding ewes is paramount for high lamb and ewe survival over late winter and lambing.

# WELCOME TO VETERINARY OFFICER PHILLIP

By Phillip van der Riet



I am Phillip. My family name is van der Riet. Yup, three words. I won't bamboozle you with my middle names. I am a Veterinarian.

Growing up in South Africa in the 70s and 80s, I was nurtured into the wonders of the environment, the marvel of biology, and the fascinating diversity of society. I was also incubated with the invasiveness of harmful political ambition – national and international – and was a fledgling observer and participant in its consequences on a developing society and environment. I feel lucky to be of a family that sought sociable community in culture, responsible progress in industry, protective enjoyment of the environment, and inclusive participation in the economy. I hope these values have stayed with me.

By the 1990s I had completed studies in Zoology and Environmental Sciences at the University of Cape Town and was certain of the importance of environmental study and conservation for the safety and progress of humanity. It's just so obvious. I also recognised that the economic circumstances of the time, together with my own strong

interests, would restrict my prospects for a career in these fields. I then undertook my Veterinary Degree at the University of Pretoria, at a time in the early 1990s that coincided with enormous and inspiring national and global political change. In Veterinary Science I was able to recognise and develop a keen interest in animal biology, welfare, production and conservation, and have happily lost no edge in my pursuit of knowledge and application in these fields ever since.

Graduating as a vet in 1995, my first job – days after receiving my degree – was a weekend locum for a friend. My first patient was a duckling, and that seemed to set the tone for the diversity I have encountered ever since. The next week I took up my post with the South African State Veterinary Services in KwaZulu Natal, a requirement of my student bursary funding. This was a fascinating job of large-scale intensive rabies control, cattle dipping for tick-borne diseases, and import/export responsibilities, that coincided with a fascinating time of the extension of these services into previously excluded communities. I remember being approached by a youth carrying a home-made handgun wanting to try his hand at vaccinating a dog. He wasn't threatening in any way, just enthusiastic and prepared for the troubles of the day. In retrospect, he probably had good qualities for being a vet! But we didn't let him vaccinate the dog.

My next big move was to the United Kingdom in 1999, a move brought about by economics rather than intentions. I worked a very intensive two years in small animal and equine practice – with the occasional sheep lameness and darting of runaway cattle – before taking an opportunity to work

in the Middle East. There followed 4 years of highly diverse work in a very hot climate employed by a high-status individual but providing services also to local tribal and expatriate communities, and the conservation authorities. It was a happy time of veterinary care for a dairy herd of Jersey cattle, large goat flocks, smaller sheep flocks (goat meat being preferred to sheep), tribal beef animals, a status camel herd, a large breeding contingent of Arab, Thoroughbred, Tersk and (oddly) Haflinger horses, and an assortment of eagles, quails, macaws, turkeys, chickens, Arabian oryx... Bored yet?

Recognising my own limitations and also the restriction of continuing my employment in a country where citizenship and property ownership were not an option, I returned to the UK in 2005. This time I was aware of what to expect and found I was far better able to enjoy the country and the work. What was to be a two year plan of further study before investigating further options, became a 15 year joy of mixed practice work, ending in the last three years based in a beautiful part of North Yorkshire doing a happy mix of beef, sheep, small animal, equine and exotic species work. I also assumed British citizenship in 2009 in recognition that my intentions of returning to practice in South Africa were becoming increasingly remote.

And then a chance look through a veterinary journal came across an advertisement for employment in the Falkland Islands. This was at a time when the practice I was working for was going through a difficult period of management, leaving us employed staff rudderless and concerned about their intentions for our future. And this was before the COVID pandemic came into play! After careful consideration of the advertisement and the employment goals, I keenly “threw my hook into the water” and was lucky to be offered the opportunity to take up employment. By this time the pandemic was in full swing. We as practitioners were intensively active with the lambing season, spring calving, and the inevitable “everything-is-an-emergency” small animal work of general practitioner veterinary life. Nevertheless our management were pursuing an intention to limit the practice to the profitable small-animal only work. I offered my services to the Falkland Islands Veterinary Department with enthusiasm.

As I have found with so many people who I have spoken to in the last few months, my knowledge of the Islands and their history has been limited to and defined by the conflict of 1982, which was big news even in South Africa at the time. We thought we were the only place in the world with problems! The last equine client I saw in North Yorkshire told me that her husband had been in the forces at the time, and that his experiences had been “limited to being blown up”! Happily he survived, and she reported that he still talks longingly about returning to the Islands for a visit. Indeed, the few people with personal experience of the Islands – ex-Forces and other – that I have spoken to have been uniformly enthusiastic about the environment, the wildlife and the hospitality. So I have come to see for myself...

From a working perspective, I am very excited about contributing to a community and an economy where both agriculture and conservation play such a big role. I am very aware that I have a lot to learn about the local agricultural systems and community expectations. Happily, there seems to be a strong support team of experienced, enthusiastic and capable personnel in the Veterinary Section and in the Department of Natural Resources generally. Although I know my way around a scalpel blade, an export permit, a hissing cat, a sheep’s enthusiasm for the afterlife, and various animal’s internal examinations (no details needed), I will look forward with enthusiasm to learning how I can bring value to animal welfare, productivity and conservation, as guided by the local community experiences and aspirations.



Department of Agriculture *Webpage*

Falkland Islands Government

[www.fig.gov.fk/agriculture](http://www.fig.gov.fk/agriculture)



# **WELCOME TO VETERINARY RECEPTIONIST MERRIE**

By Merrie Ellis



I returned to the Falklands Islands in March 2020 after my final year at Peter Symonds College was cut short by Covid - 19. I studied Spanish, Art and Geography at college and I am currently awaiting my results.

Since being home I have been working in the (King Edward Memorial Hospital) KEMH lab and have now recently started as the Veterinary Services Receptionist. I plan to work at home for the next year. So if you call the vets in the next 12 months I will be the one at the end of the phone, be patient with me!

# **FAREWELL FROM OUTGOING VETERINARY OFFICER ROSS**

By Ross Milner

My wife and I arrived at the end of April in 2017 on a sunny day on the Latam flight from New Zealand with an overnight stay in Santiago, with 6 suitcases (4 ½ belonged to my wife) , a surfboard and 3 dogs. Steve Pointing and Zoe Fowler were there to greet us at the airport, everyone was very friendly and welcoming, the Customs Officers wishing they could confiscate my dogs on a technicality and take them home.

A meal and a warm house were waiting in Stanley with a splendid view of the Narrows from the kitchen window. The light was different to anywhere else I had ever been, it really felt like we had reached the end of the world but the warm welcome with essential supplies and a TV was very much appreciated. British television made you think you were in England until the dogs started growling at the turkey vultures peering in from the neighbour's roof. It was then that I realised this really was very different to anywhere else on earth that was English speaking!

I have spent the last 3 and a bit years working with a great team at Department of Agriculture (DoA) in a modern well equipped veterinary practice and with farmers keen to learn new ideas and develop new skills in what is already a world class wool industry.

I grew up in Cape Town with penguins on the beach, whales and the occasional dolphin, stone runs and lots of wind far worse than Stanley. Walking my dogs on the pristine white beaches 5 minutes from work at the end of each day, I have seen dolphins two or three times a week, there seem to be an abundance of them, and sometimes I would spend an hour or two after work surfing with them which was quite magical.

Some of the DoA staff waxed lyrical about the West and kept saying I must visit and so a summer holiday was planned and became an annual pilgrimage after we discovered what a beautiful place it was. So is the East, after leaving town and turning right a few miles after the quarry towards Mount Kent heading up over the mountain pass, reaching the top and seeing the stone

runs and vast empty planes stretching to the horizon was a breath-taking sight I never tired of. Above all I remember the kindness and hospitality of Falkland Islanders. On my last trip to the West, chatting to the locals at a store I was invited to an impromptu barbeque. Some of the farmers who turned up I knew and others I recognised from their voices on the telephone and it was interesting to figure out which voice belonged to which dramatic case that I had been involved in, with seriously ill dogs or cats flown in by Falkland Island Government Air Service (FIGAS). It was good to finally meet the people I had talked to over the phone.

Work as a Veterinary Officer in the Falkland Islands has been interesting and challenging, probably the most diverse vet job in the world. In my first few months, apart from the usual cats, dogs, horse and farm animal patients, I was flying to remote islands to trim cows feet, scientific investigations of a beached Humpback Whale and Southern Right Whale Dolphins, learning how to deal with blood transfusions in people at King Edward Memorial Hospital (KEMH), a first aid course and firefighter training at FIGAS and travelling out in stormy seas to clamber up the sides of ships to do public health work for the World Health Organisation. I enjoyed each new challenge and also meeting and talking to the people who grew up here with some fascinating accounts of their experiences of living through a real war in the recent past in their own country.

I had some interesting projects to work on including working with Conservation and environment to produce a standard operating procedure (SOP) in response to mass mortality events in wildlife. In consultation with specialists in 6 different countries, I also designed a SOP specific for animal disease threats to the Falkland Islands in pets and livestock. I organised the Falkland Islands' first exercise to simulate an outbreak of Foot and Mouth disease with heads of various departments attending and it was an interesting and useful exercise to prepare the Falkland Islands to respond quickly to any such emergency, which hopefully will never occur. My last project, just as I am leaving, is to stimulate a debate on setting up flock health schemes tailor made to extensive sheep farming in the Falkland Islands. It can be something very basic with minimum input, or very detailed, tailor made to each farmer's needs.

I grew up in a small town of 6000 on the way to Cape Point, the most south westerly point in Africa, so I felt very much at home here. My wife has a new job in Fiji so very sadly we have to leave. I would have quite happily stayed on here. I will have many fond memories of the Falkland Islands and the many good friends we have made and look forward to coming back again. Thanks everyone for showing me what a wonderful place the Falkland Islands really is.

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# **FAREWELL FROM TRAINEE VETERINARY NURSE KATTRICE**

By Katrice Berntsen

So, that is my year working as a Trainee Veterinary Nurse complete; it has certainly been one I'll remember forever.

Thank you to the Veterinary Department for kick starting my career and making this past year possible.

On the 16th of August I am due to start my journey to Scotland, to study a four-year honours degree in Veterinary Nursing at Edinburgh Napier University. I am looking forward to starting the next chapter of my career and hope to one day return to the Department as a qualified Veterinary Nurse.