BLNZ Drought Management Regional Case Study

Cheviot, North Canterbury

Case Study Farm: B+LNZ North Canterbury Future Farm, Cheviot

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Executive Summary

B+LNZ North Canterbury Future Farm is experiencing the impact of a prolonged drought. Operational plans have significantly changed from initial planned activity and additional changes are still required to manoeuvre through to spring 2020. The short-term autumn feed deficit is equal to that of the forecast spring deficit. Our aim is to minimise the 'loss' to plan and ensure the farm business is in a position to get back on track and capture the spring flush.

Farmax modelling has been used to feed budget the current, and future position under the proposed changes.

The combination of widespread adverse weather conditions and Covid-19 restrictions have limited the wholesale approaches typically exercised. Within our analysis we looked at a number of familiar options:

- Applying nitrogen
- Feeding supplement
- Manipulating BCS (targeted feeding)
- Grazing off
- Sale of trade stock
- Hoggets mating / not mating

A number of options are required in small volumes to achieve a feasible solution. Practical limitations apply to many options and are time sensitive to what can be achieved.

The workings highlight the importance to feed budget now, make clear decisive decisions and lean on your networks and support people. This is a nationwide challenge, across the whole agricultural sector.

Background

The combination of adverse weather conditions and Covid-19 restrictions have caused major problems for some farmers. This case study examines the issues, analysis and management options considered by a local farmer.

Farm Overview

Situated in Cheviot, North Canterbury, Lanercost is a sheep, beef and dairy support operation totalling 1,310 ha of which 1,180 ha is effective. 69% is classified as Class 2 hill country and the balance, 370 ha Class 6 breeding and finishing.

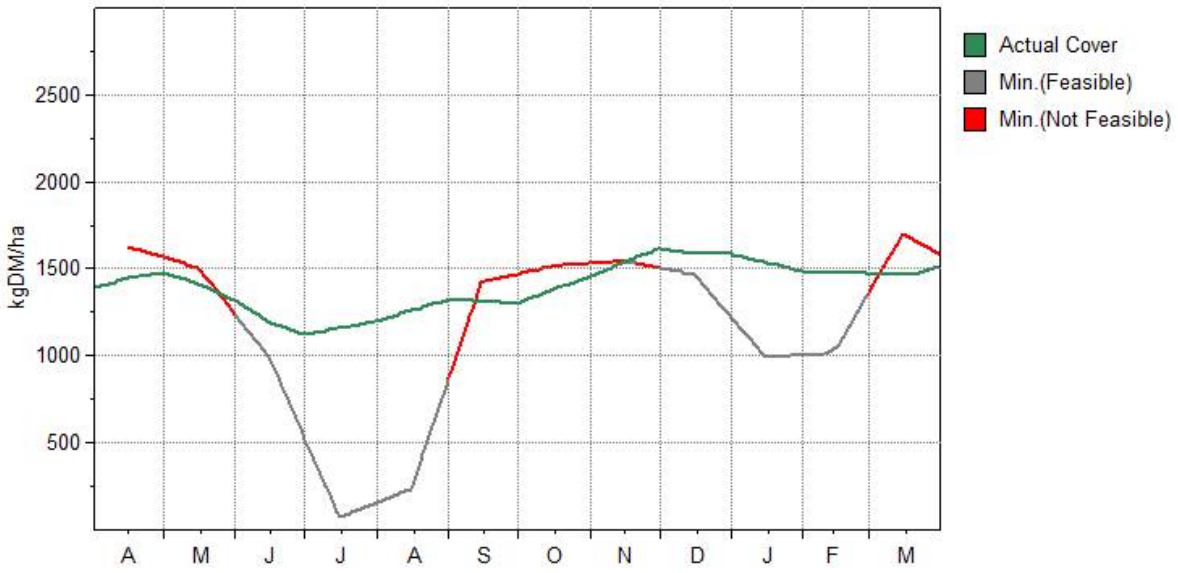
The sheep flock is comprised of 2,800 ewes and 1,400 ewe hoggets. A strong focus within the sheep operation is to build a capital flock with appropriate genetics and age structure. The 275 calving beef herd is a traditional English breed, calf breeding enterprise. Dairy grazing includes 150 yearling heifers for 12 months and 320 cows to winter on crop for 9 weeks. Additional trading occurs throughout the year with an emphasis on capturing the spring surplus.

A strong emphasis is placed on pasture renewal, and targeted fertility to improve the productivity of the property.

Current Situation

Very dry summer and autumn conditions have resulted in low pasture growth rates and suppressed crop yields. All crops and new grasses are up and healthy, however they will require additional growing time through to the winter to achieve season yield potential.

An opening pasture cover of 1,392 kg DM/ha on 1 April 2020, with current livestock demand will result in covers dropping below feasibility.



Low pasture demand through July and August is a result of sheep moving onto winter crops for this period between scanning and lambing. It is not feasible to utilise these crops earlier.

The autumn deficit is forecast at 213,000 kg DM, compared to the spring deficit forecast of 220,000 kg DM. Both deficits are very similar, which suggests if the short-term deficit can be resolved it aligns the system for spring as planned.

A recent rain event and warm weather is providing confidence the pastures will provide a significant contribution before winter, but there is an immediate need to make some decisions.

To date the farm business has exercised the sale of trade stock, off-farm grazing of a proportion of replacement ewe lambs and targeted feeding of ewes with barley. Maintenance autumn fertiliser is being applied with 30 kg/ha of nitrogen.

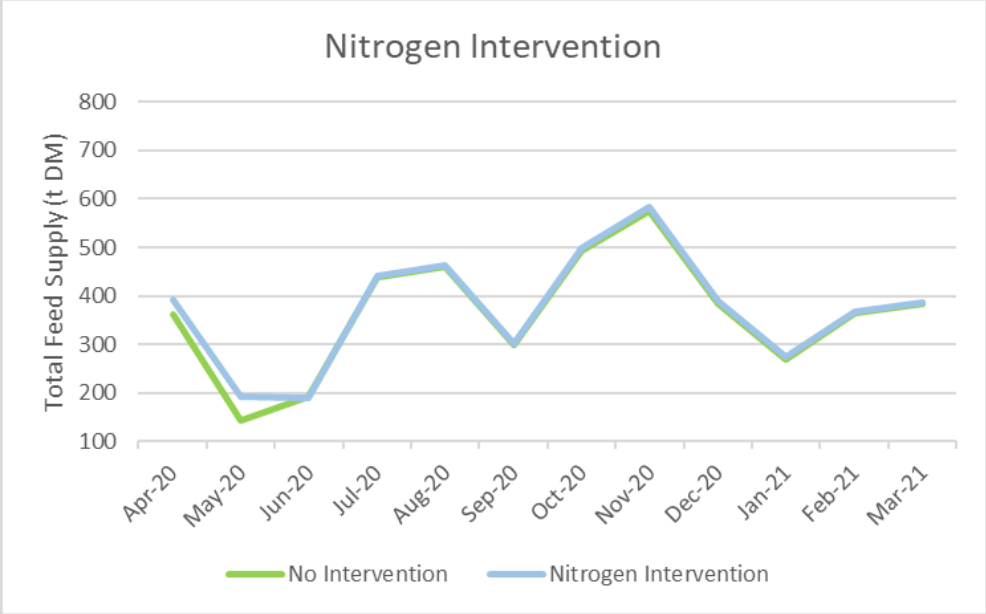
Analysis

In this analysis a review has been undertaken to determine mitigation options that can be exercised. The options account for the time delays we are experiencing such as procuring kill space, grazing and supplementary feed. It includes management factors that can be implemented at no financial cost.

Nitrogen Application

Nitrogen is being applied at 30 kg N/ha over 214 ha of Class 6 land. The budgeted response is 10:1, less than the typical response we would expect but soil temperature is falling and the window of opportunity is reducing. This application is being applied with the maintenance fertiliser.

The total cost is $9,630 applied, or $0.15/kg DM. The impact on the supply curve forecasts an additional 64,200 kg DM over 50 days.



Supplement Intervention

Winter silage reserves have been consumed over the summer months, but sufficient reserves have been kept for calf wintering. Barley straw has been ordered to replace the silage budgeted to winter dairy cows. Baleage has been quoted at $0.47/kg DM landed and supplies are very low.

The dry has impacted feed supply dating back to the beginning of summer, so barley was introduced to low condition score ewes pre mating. It is proposed to purchase an additional unit load of barley (28t) and continue to feed the ewes.

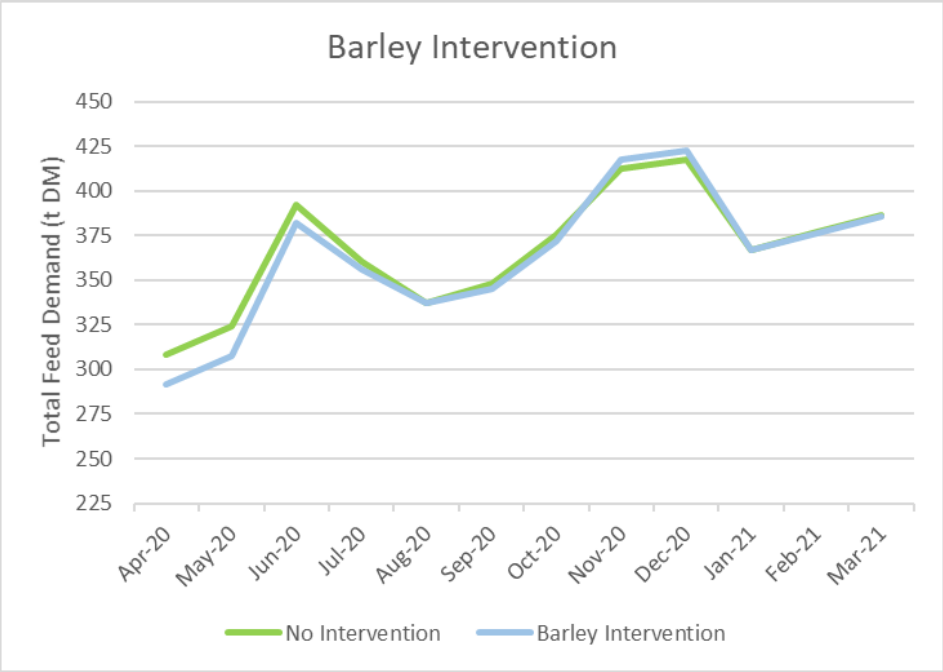
The focus is on targeting ewes with a low condition score, feeding higher volumes of grain to these ewes. The first mating cycle will finish on 30 April, from this point well-conditioned ewes will be reduced to maintenance rations for six weeks. Condition scoring of the ewes every three weeks will be an important tool to monitor and manage the performance of the flock through this period.

Barley provides a high-quality feed input to lift low condition score ewes. Barley is forecast to have 24% more energy than grass (10.5mjme – 13mjme). The introduction of 24,640 kg DM of barley at $0.48/kgDM equates to 30,554kgDM or $0.38/kgDM as a grass equivalent.

The real advantage is this high-quality feed can be easily measured and targeted at particular mobs. In addition, pasture fed ewes of high condition score can be restricted to a desired intake. The overall average flock productive performance can operate at the same level with less feed input by volume. We have modelled this and forecast a total short-term feed saving of 42,800 kg DM inclusive of barley

purchase. The effective cost of barley is $0.27/kg DM when coupled with targeted feeding in this situation.

Additional feeding has been planned post tailing when a surplus is likely.



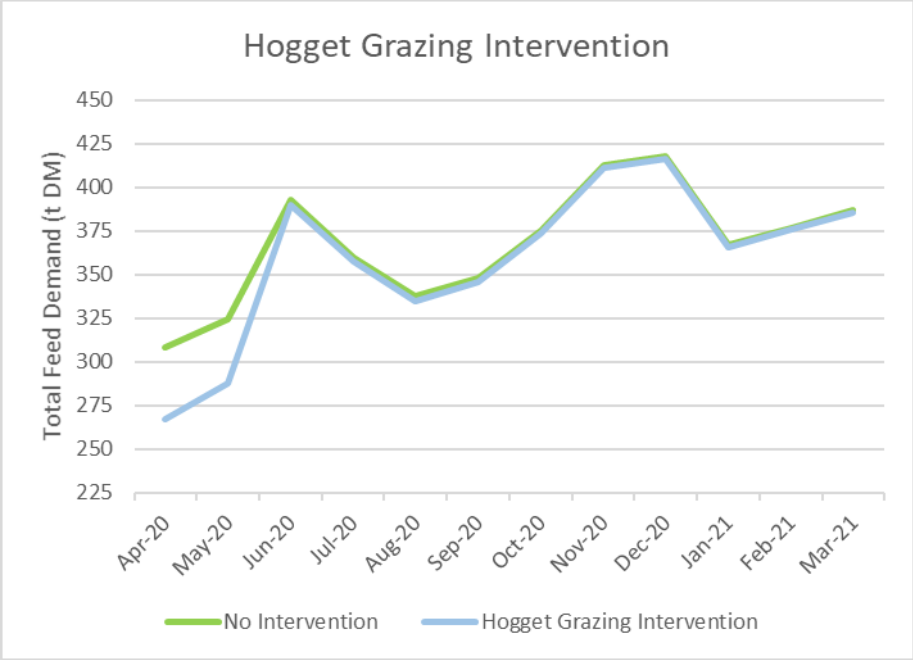
It is important to note barley allocations should start at 50 gm/hd/d (5 kg/100 ewes) and lifted by 50 gm/wk. Allocations up to 500 gm/hd/d are not uncommon in Canterbury through drought periods. Wet weather can make the practical feeding and utilisation challenging so make sure you have access to a dry ridge or laneway.

Grazing Off

The decision was made early to graze 800 ewe lambs off farm. Grazing was planned to end 1 April, fortunately this has been extended to 30 April.

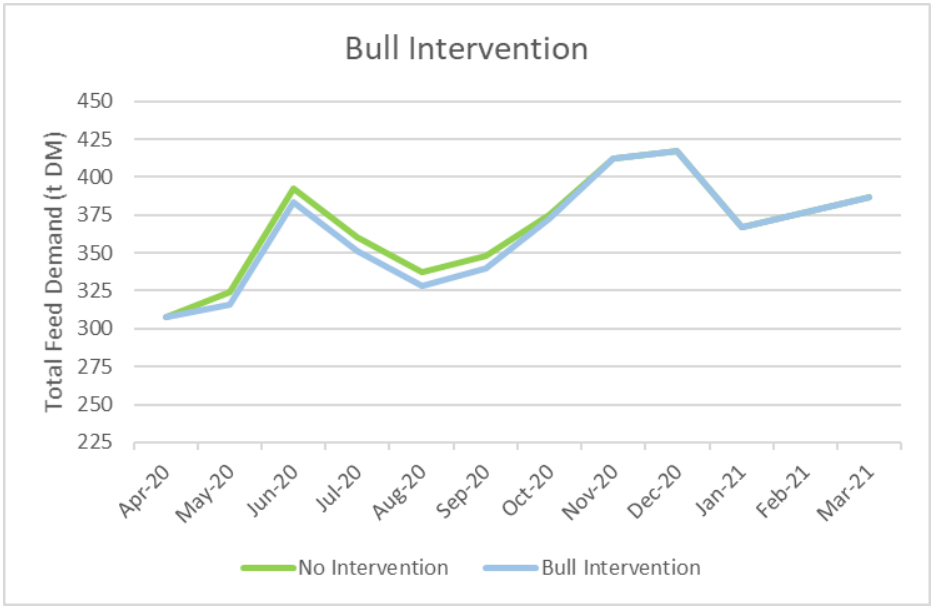
Grazing off can have a significant impact on the short-term feed demand within a system. We have sourced additional grazing for the month of May on another property.

Feed saved totals 77,790 kg DM, at a cost of $17,543 including transport, or $0.22/kg DM.



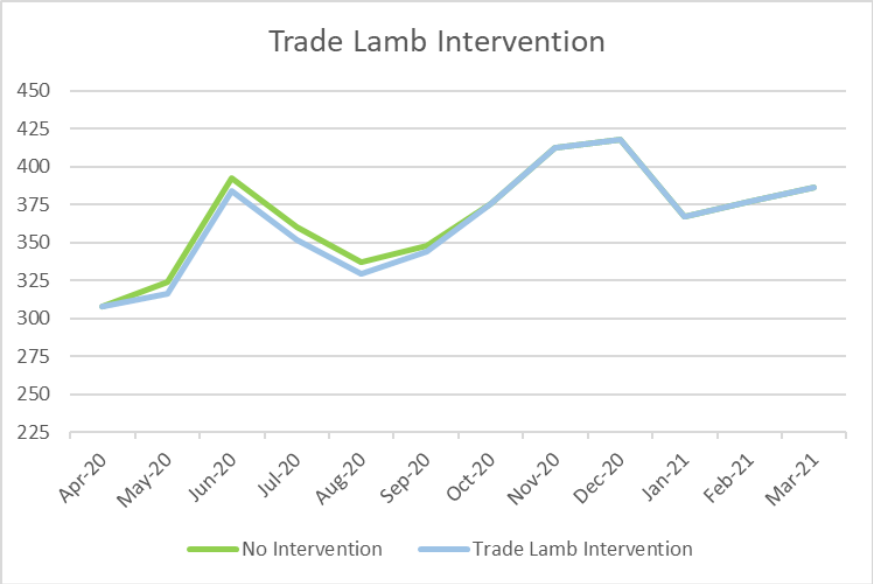
Sale of Trade Stock

30 Friesian bulls weighing 550 kg LW, while not at target weight, are still accommodating paddocks and feed. With a number of female dairy cattle arriving they are a stock class identified as a potential sale proposition. These were provisioned to be sold on the spring market.



The sale of the bulls is provisioned for 1 May. This will directly impact the demand curve through to October. If conditions are suitable later in the season this class of stock may still be an option to capture the spring flush, at which time we may re-enter the market.

250 smaller lambs from weaning have been carried through. The market and demand have not improved; however, the cost of retention will likely be greater than the value of supplement input for this class of stock.

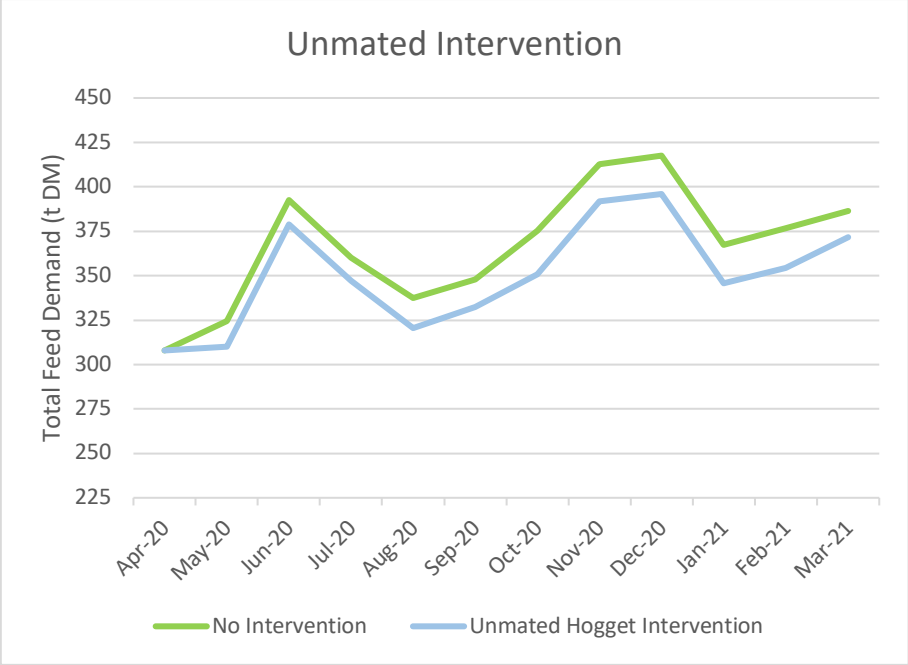


The reduction in feed demand from the sale of the bulls totals 46,100 kg DM and 35,800 kg DM for the trade lambs. More importantly the reduction in demand throughout May and June totals 33,840 kg DM.

Hogget Mating

A question often asked during tough autumn conditions; “Are you going to mate your hoggets this year?”.

The decision to not mate hoggets has a short-term impact on the feed demand but most importantly significantly reduces the spring and summer demand. In this case if we can remedy the autumn/early winter shortfall, the planned activity can still take place.

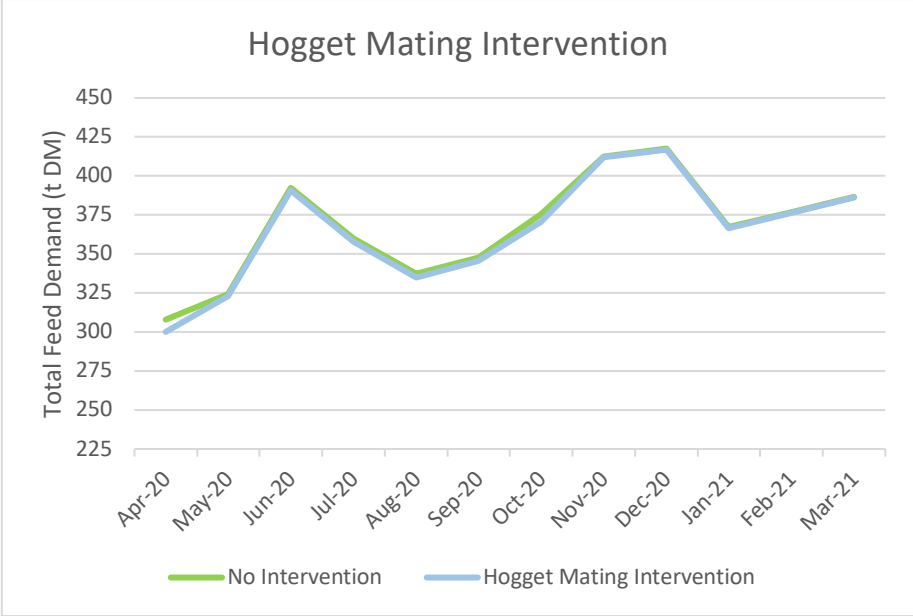


The feed challenge exists from April-June in this system. The decision to not mate the hoggets results in a saving of 28,080 kg DM for these 3 months. The potential cost of lamb revenue is $56,000 (700 hd @ $80/hd)for a whole season demand of 199,140 kg DM, which equates to $0.28/kg DM. If these hoggets are not mated it will be a challenge to capture the full offering of spring feed.

As a back up to winter not tracking as planned all hoggets will be mated with a ram harness. Those unmarked can be separated and fed differently or provide a trade option if required. The challenge of waiting until scanning is this is often too late to implement strategies to have a meaningful influence on the feed budget.

Hoggets have a planned mating date of 1 May. If mating was delayed to 10 May, total feed savings for April-June would total 10,800 kg DM. The feed savings occur by reducing the daily liveweight gain in the hoggets to achieve the same mating weight on 10 May as was planned for 1 May.

This decision is not contributing significantly to the feed savings but is a likely reflection of what is actually happening in the paddock.



Decisions Made, and Why

There is no one 'lever' we can pull to remedy this situation given a number of internal and external challenges. A mixture of 'tweaks', exercising many options but in small volumes will likely lead to the outcome desired.

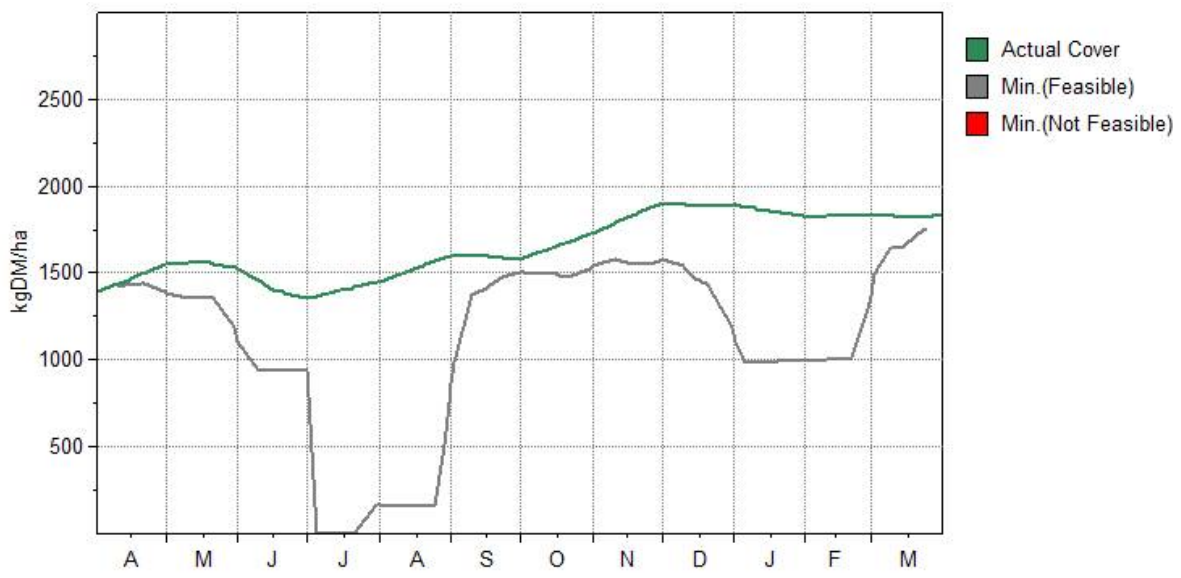
Much of the sheep crop area and new grasses will come on stream at the start of July. The conscious decision has been to preserve these to ensure maximum yield and carry ewes through to set stocking. This essentially provides the opportunity to reset and enter the spring in a positive position.

The potential to reduce the dairy grazing component was not considered as the relationships that have been formed are important and the business desires to act in good faith. The return from dairy grazing is equal to or greater than the mitigation costs.

Emphasis has been placed on offsetting the short-term deficit, and the business will:

- Apply 30 units Nitrogen to 215 ha
- Purchase an additional 28t Barley and maintain ewes above CS 3 post mating
- Graze 800 hoggets off farm for April and May
- Sell 30 bulls prime and 250 lambs store
- Delay hogget lambing by 10 days (focus on target liveweight)

To achieve feasibility of the short-term deficit (April/May) this has resulted in additional spring capacity. It will be important to track progress to plan through the late winter period as there may be an option to capitalise on this surplus spring feed.



Practical Considerations

We have moved from a grass-based system to a system that is being propped up by external sources of feed. This will result in additional working expenses to the operation. For many this may trigger an overdraft extension on the working account so it will be important your budgets are up to date and you can clearly articulate your proposed actions. Let your funder know as soon as practical.

Nitrogen is a growth multiplier and as we track towards winter the multiplier effect decreases. Rain is required post application to minimise volatilisation (loss to the atmosphere) however while more expensive, each major fertiliser company offers coated products to protect the nitrogen until rain arrives.

The feasibility of supplement options varies by district, both through availability and cost of transport. An important consideration when reviewing your options will be cost, quality of feed, ability to feed, and transition times. Transition times are extremely important in feed concentrates such as grain or nuts, these feeds require a gradual transition phase. As we near winter, utilisation of these concentrates can be poor if fed in paddock, so make sure you have a hard track, dry ridge or a dry shelterbelt where you can feed out.

Grazing off is a great option if you can source it. Important to ensure all animal health is up to date and you take an active approach in monitoring livestock progress. Smaller grazing windows such as 4-6 weeks will still be cheaper than most supplement options and will have an immediate effect.

The operational changes meat processors have implemented under Covid-19 restrictions have severely limited animal throughput. In addition, a higher demand for killing space carried over from the summer dry period has now overlapped with the dairy cow season. Once a readily available option, it has now been restricted to smaller volumes. The sale of prime and store stock is still happening but at lower volumes. Moving early is important and focusing on smaller volumes. Any sales at this time will unlikely yield to expectation but this partial contribution to feed savings will be important in your overall strategy.

The cost to retain and mate the hoggets will not yield profit for eight months, but it will keep you focused on the growth of these animals and the value will compound in the subsequent season – mating well grown two-tooths. The true cost of this adverse event will not be calculated until this year's hoggets are scanned as a two-tooth in 2021.

Other Points

It is really important that you start with your feed plan or update it if you have one. Often it is easier to treat each mob and feed source like a puzzle and start putting these together focusing on what you are going to feed each particular mob with, and when. There will likely be gaps that may need to be filled and you may look to exercise some of the options outlined in this summary. Constant updating is all part of the process.

Planning and time are not on your side so you need to be definitive in your approach and implement as soon as possible. Leverage off your networks and seek help to get some of these tasks locked in place. The shortage of supplement feed reserves is growing and what seems expensive today, will be cheap tomorrow.

In your thinking process try and identify additional options that you could exercise if required. We have given the example of marking hoggets with the ram harness so unmarked hoggets could be sold on the winter prime market. While not planned, it is an option.

Do not put all your 'eggs in one basket', exercise a number of options and they will amount to a significant offset.

Spring will arrive, and you will forget about the challenges you have just manoeuvred.

Good luck.