Once it Rains….What Happens to My Grass?

Stock have generally done well in the dry conditions this year because feed quality in the desiccated pastures has been reasonable. When the rain finally comes, the quality will crash, and stock will go backwards. When it rains the cell walls of the plants collapse, feed quality disappears and the plants rot. It is estimated up to half the grass available is lost after rain because it is dead and decays quickly.

Another thing to watch is that the DM content of new grass is low (below 15%) because of its rapid growth, so supplement will still be needed even when there is plenty of fresh feed available. Therefore it is critical to have plan to carry on with your supplementary feeding regime for at least 2-3 weeks following the rain to allow pastures to recover (not overgraze) and stock to continue holding condition.

How does my grass recover? (Source: Massey University)

In a drought, tillering doesn't happen, more spring tillers die and those that survive are stressed. The period immediately following a drought is critical to allow autumn tillering to occur, otherwise pastures will thin out in winter, production will be poor, and weeds will invade. There are three ways grasses recover once rain falls:

- Plants that are still alive but growing slowly due to lack of moisture can quickly recover, green up, and be back into production. While this greening up can occur within a day or two of rain, growth rates will take several weeks to recover, as roots are small and tillers are re-building.
- Dormant plants where above-ground parts have died back, but buds at ground level are surviving, can begin tillering from these buds when rain falls. New green shoots can be seen in the base of dead pasture within 1-2 weeks after rainfall, but recovery in terms of pasture growth rates will still be several months away.
- Pastures where most of the plants have died will have to recover from seed.

How far behind "normal" are my feed covers?

Keep a reality check on your position.

It's too easy to accept the dry as a "norm" and end up wearing big production loss because you weren't proactive enough. Seek an outside opinion if you're having trouble reading or accepting these numbers below and fathoming the response. An outside opinion can be more objective about your position.

Don't blame yourself for things not going to plan. Focus on adapting to the "reality" of what's around you and respond to it.

Stocktake

BakerAg monitors a number of properties in the Wairarapa and Tararua. Many farms are currently sitting at covers of 1000 to 1250 Kg DM/ha. This would look like 1.5 to 2cm of pasture height on your FARMAX sward stick (Summer).

Typically, the farms monitored would have covers of 1700-1800 kg DM/ha at this time of the year in a normal season. The gap in feed covers we are seeing is therefore circa **550kg DM/ha**. Let's quantify this in supplement terms:

- 550kg DM equals 2.5 bales of baleage /ha (220kg DM per bale)
- 550kg DM equals 640kg of feed barley /ha
- 550kg DM equals 46kg N/ha at a 12:1 response (100kg/ha urea).

Let's say your farm is 700 ha effective. To get back to normal feed covers/reserves on every hectare of your farm you would need to fill to hole with supplements using either:

- 2.5 bales of baleage on every hectare = 1750 Bales of baleage, or
- A pile of 640kg of feed barley on every hectare = 448 tonnes of barley, or
- When it is green, apply 100kg of urea to every hectare = 70 tonnes of urea.

What is my daily Feed Demand per Ha?

We strongly suggest you work out your daily feed demand and liveweight/ha (see end of AgLetter for worksheet). Below is a 700 ha summer dry Wairarapa farm that has been reducing feed demand steadily through the autumn. The current feed demand is 10.4 kg DM/ha and the liveweight/ha is 476 kg.

Mob	Tally	Comment	Your Situation
Ewes	2,550	64kg (shorn Dec). Pretty good condition, bit of a tail developing with 15% ewes below BCS 3	
2-ths	800	60kg (shorn Feb). good condition, could still grow a bit.	
Ewe Hoggets	900	40kg – good. but pushed for feed now. Will mate anything heavier than 42kgLW at this stage	
Trade Lambs	300	34 kg. Aim to kill end of May 17kgCW	
Cows	80	550kgLW. Good nick – weaned and working	
R2 Heifers	20	400kgLW. In-Calf	
R1 Heifers	35	220kg. Weaned early March	
R1 Trade Cattle	50	240kg.	
Total liveweight/ha		**476 kgLW per hectare**	
Feed Demand KG DM/Ha/day		**10.4**	
Total SU/ha		**7.5**	
Supplement		5ha of winter crop at 6tDM/ha ,60 big bales of hay	

If I'm eating this….. and growing this ……what is going to happen?

We have estimated what pasture growth rates would look like below with different recovery times. Like a Friesian bull, there will be compensatory growth in our pastures once it rains with May and June. Pasture growth rates can be higher post a drought because of stored N and S, depending on the pasture damage. Remember ryegrass will still grow well at a soil temp of 10 ^{0}C (soil temp on the 15th May 2019 was 13^{0}C on a Wairarapa farm) ……Bring on shorts at duck shooting and full dams!

Start of April Recovery	April	May	June	July	Aug	Sept	Oct	Nov
Pasture growth kgDM/ha/day	7	17	14	11	15	20	34	35
Feed Demand kgDM/ha/day	10.4	10.4	11					
Daily Deficit/Surplus kgDM/ha/day	-3.4	6.6	3					

Start of May Recovery	April	May	June	July	Aug	Sept	Oct	Nov
Pasture growth kgDM/ha/day	3	12	14	11	15	20	34	35
Feed Demand kgDM/ha/day	10.4	10.4	11					
Daily Deficit/Surplus kgDM/ha/day	-7.4	1.6	3					

This is a crude supply and demand exercise, but what is clear is that we need to be building feed covers for winter now, but with a daily deficit in April and little surplus in May/June this property would struggle to build enough feed going into winter without more intervention. Enter your demand and your estimated PGRs to see the outcome.

What does the FARMAX feed budget show?

Feed budgets keep you focused on "optimum feeding levels" and prevent the risk of running a compromise on stock condition. FARMAX is the best tool out for quantifying your feed position and forecasting forward.

Forecast Performance

- 700 ha farm
- The model assumes all stock numbers and weights are as per the table above.
- Starting cover on 1st April of 1250Kg DM/ha
- 5ha of winter crop (30 tonne DM) fed out in July/August
- 60 big bales hay fed out in July/August. No Nitrogen.

Breeding ewes

This model assumes a ram date of 25th March. From the ewe weights above, it forecasts a scanning of 167% in ewes and 160% in 2-tooths, and a lambing result of 130% in ewes and 128% in 2-tooths. We have budgeted on these ewes losing half a condition score through winter.

Ewe Hoggets

In this model any ewe hoggets over 42kgLW are being mated, which means 600 are mated and 500 get in lamb. (For a twin hogget to get to a weaning weight of 62kgLW in late December she will need to be close to 60kgLW just prior to lambing).

Trade Lambs

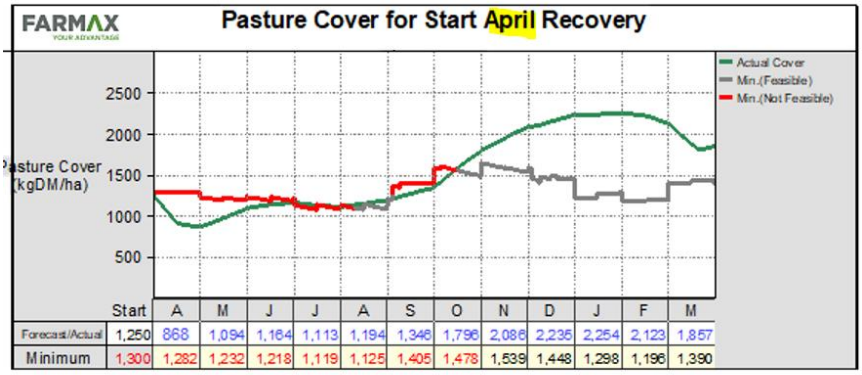
The aim is to finish these lambs from March through to the end of May (17kgCW).This requires an average LWG of 80g/day.

Weaner Steers

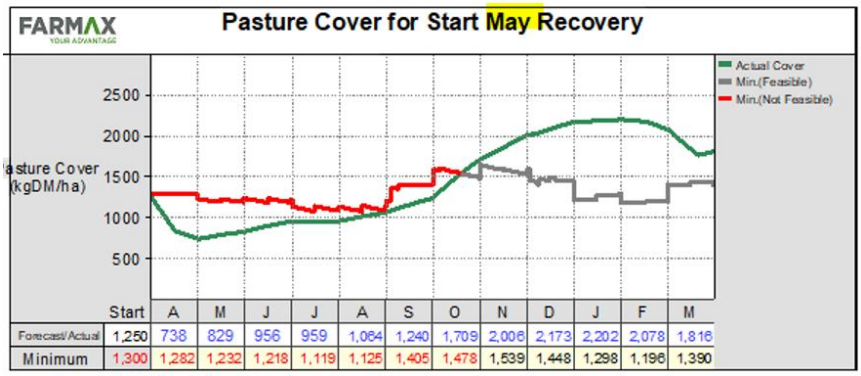
These are 240kgLW now. In this model they are held through the winter and sold store in September at 324kgLW.

THE RESULT:

The Farmax graphs below show the result of our model assuming a "start of April recovery" or a "start of May recovery". It's not looking pretty!! The assumed pasture growth rates (kgDM/ha/day) for the two models are above in the table. The green line shows what the predicted pasture covers will be assuming the above. The grey/red line shows what the covers need to be to achieve the production assumptions and LWs set out above. If the line is red, it suggests it won't be feasible so something will not achieve what we have set out above (stock losing weight and production compromised).



If it rains at the start of April *it shows that this farm is going to be under pressure from now until around September and livestock production will be impacted.*



If it doesn't rain significantly until the start of May *there will be a significant feed deficit which will impact on ewe condition, hogget performance, and eventually lambing and weaning performance next spring.*

How can we fix the problem?

First off, take stock of your situation. Measure some pasture, measure some stock condition and compare yourself to this model. There will be many farms in a better situation than this (higher covers, lower stocking rate).

Build Covers Now

From the pasture cover graph above you can see that the covers required in spring is about 1400 kgDM/ha. The key to getting there is to do everything you can to build up covers prior to the winter.

Breeding Ewes. After one cycle 80% of your sheep will be in lamb. After this time there is no productive benefit from putting condition on ewes. Just maintain them at a constant condition and build covers.

Grazing. Breeding cows are the obvious ones. If you can find some it is a good option for lowering demand now to build covers.

Sell Trade Stock. Trade lambs are an obvious one, don't fight crap prices.

Nitrogen. Nitrogen is the cheapest form of supplement. The downside is many areas won't have enough feed cover and soil moisture to best utilise N at this stage.

Buying Feed Supplements Barley, baleage, maize, grain etc

Hogget Mating. Don't mate your hoggets. This means you can tighten them up now with the knowledge that you can catch the weight up on a dry hogget later in the spring.

THE FIX

Assuming a "start of April recovery" with good rain, to eliminate the feed deficit in our above FARMAX model and feed stock at optimum the following has to happen:

- Feed 1700 MA ewes all of April with 300g/hd/day of barley on rotation = 15 tonne barley, cost $6,300
- Lift mating weight of the hoggets to 46kg minimum and only put 300 to the ram. 225 Lbs less @ $70 = cost of $15,750
- 100kg/ha urea over 300ha 25th April (when grass greens up) - cost of $24,900
- Sell 300 trade lambs store now, $15/hd margin forgone = $4500
- Total Cost **$51,450 or $73/Ha** increase in farm working expenses

Every farm is different, but bigger decisions would need to be made if we don't get a recovery until the start of May.