

Newsletter No. 6 November 2017

Project Field day

Tuesday 28th November
Roger & Barbara Gillatt
Allister & Maree McCahon



**NORTHLAND'S
DIVERSIFIED FORAGES**

We will be looking at discussing the 3 month, 3 year old and 15 year old lucerne at the Gillatt's. With one month's growth data still to be collected, one paddock has already produced 15 tonne of dry matter per hectare. This fueled by growth rate of 106 kg DM/ha/day in November and December last year, in what was a very dry period with correspondingly slow pasture growth in most of Northland. The annual and perennial clover plots, along with the tall fescue and clover pasture at Allister & Maree's, are all looking very impressive right at the moment. While some annual clovers have not performed, e.g. the sub clovers, some are very, very strong currently, e.g. balansa, Persian and arrowleaf annual clover. For anyone interested in growing clover or other legumes, I suggest this day should be very interesting.

Tuesday 28th November
Start time 10:15 a.m.
Roger & Barbara Gillatt
881 Redhill Road, Te Kopuru



*Roger & Barbara Gillatt's
Lucerne-dominant pasture showing growth
results of 105-110 kg DM/ha/day for Nov –
early-Dec 2016 under very dry conditions*



*One of the major reasons for such positive
growth under dry conditions is the rooting
depth of lucerne shown above at 50cm depth
for most of the tap root*

September 2017 – A good month?

In general, my impression is that September 2017 was another terrible September. The last few days in August and the early-September period were quite promising (after a very tough winter!) and then the "dung hit the fan" again! With this in mind, I think the pasture growth obtained from our paddock-sowings for the mid-August to late-September period, has been very positive.

The farms at the four sites shown below sowed exactly the same seed mix as each other in two separate paddocks. These mixes were either 5 kg/ha of Assett Italian ryegrass or 5 kg/ha of Request perennial ryegrass along with berseem clover (8 kg/ha), Turbo Persian (3kg), Viper balansa (2kg), Mainstay white clover (2kg) and Relish red clover (5kg).

In the table below the "P" indicates perennial ryegrass and "I" is Italian ryegrass.

Pasture Growth – Whole Paddock Plantings							
	Mid-August – September 2017			Composition at September Harvest in %			
Location	Daily Growth Kg DM/ha/day	Soil Moisture %	Soil Temperature °C	Ryegrass	Perennia I Clover	Annual Clover	Weed
Waiharara - P	74	37	17.9	38	7	54	1
Waiharara - I	66	41	18.0	52	15	24	9
Awanui – I	60	105	14.0	23	5	72	0
Awanui – P	62	90	14.5	23	4	81	0
Awanui - P-B	93	75	14.5	50	10	39	0
Moerewa – P	84	67	14.1	11	0	88	1
Moerewa – I	73	56	14.6	69	3	18	1
Kawakawa - P	58	53	16.3	58	1	41	0
Kawakawa - I	73	53	16.3	73	21	5	1

The period of growth was generally 40-42 days from late-August into early-October, for all four farms.

Relatively small differences in daily growth between the ryegrass type and the farms, but a major difference in the composition between farms: from a high of 77% of the plant material being clover down to 27% being clover.

Awanui

One site is an indication of the potential for growth in September for annual clovers and the “cost” in lost production if the establishment of new pastures is “not as good as it should be”!

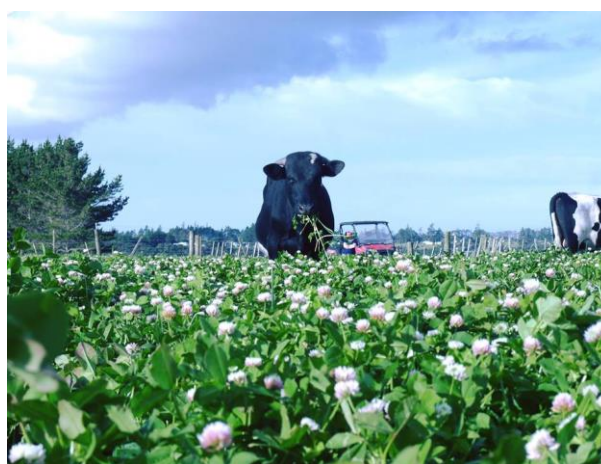
The three cages on the flats at Awanui are placed in the same area in the paddock but on sharply different pasture makeup.

Pasture Growth – in late August to early October by Pasture Composition			
Pasture Establishment	Very poor	Moderate	Very Good
Daily Growth for 42 days: 25 Aug to 6 Oct 2017 kg DM/ha/day	47	101	132
Pasture Composition % on 6th October			
Perennial ryegrass	77	50	24
White clover	16	11	4
Balansa Annual clover	7	3	0
Persian annual clover	0	36	72
Additional pasture growth in this period compared to the very poor cage kg DM/ha		+2282	+3564

The success or failure in the establishment of ryegrass and the various clovers was very much determined by the presence or absence of kikuyu trash left after a spray out and mulch. Seed was sown on 9th May. The clover establishment especially was very good in the complete absence of trash. The other extreme was the very worst area having no clover or ryegrass germination due to the presence of trash.

The financial return within the first 12 months from this ryegrassing job will be very much determined by how well, or bad, the preparation for the seed was.

The extra 3500 kg DM/ha grown in the very good area, just within this 42 day period, will be worth close to \$1,000 / ha under current bull prices.



Ussher - Awanui
6 Oct 2017: Yearling bulls
grazing annual legume-
dominant pastures yielding
6,300 kg DM/ha and growing
at 60 kg DM/ha/day for
September-early October.

Duncan Bayne – Northland Pastoral
Research doing the hard work!

Feed Quality Annual clover samples collected 18th October 2017 Location: Awanui					
Species & Sample description	Persian Pre-graze & pre-flowering	Balansa Pre-graze & Strongly flowering	Berseem Pre-graze & Pre-flowering	Persian Regrowth & pre-flowering	Balansa Regrowth & early flowering
Pasture mix present: kg DM/ha	6300	6300	6300	3400	3400
Days' growth	163	163	163	51	51
Feed Quality: dry matter %	10.9	11.0	12.2	12.6	13.3
Metabolisable energy MJ/kg DM	11.7	11.0	10.0	12.0	11.5
Crude protein %	19.5	17.7	18.9	24.1	14.9
Sugar %	12.4	8.7	6.7	9.1	13.1
Acid detergent Fibre %	23.5	30.2	28.9	19.9	27.2

These samples were collected from pastures that were sown 8th May into 5 kg/ha of ryegrass and 20 kg/ha of a mixture of annual, white & red clover.

The annual clover base, especially the Persian and balansa, has performed very well from July onwards: after a very slow start from a relatively late sowing!

The soil being a Te Kopuru sand, with its impervious pan being 8 to 12 cm below ground surface, has been extremely wet from May to mid-October and so two paddocks were not grazed right up to 6th October. These feed quality results show a similar picture to our previous years monitoring: That berseem feed quality is slightly below the other clovers, i.e. berseem @ 10.0 ME compared to the 11.7

and 11.0 for Persian and balansa respectively.

The Persian clover @ 12.0 ME and its other results is showing high quality feed results for both the shorter regrowth material and the pre-graze material. The 11.7 ME for this pre-graze material is a very positive result considering the very high pasture mass present. More samples are being collected in early-November to see how large the drop-off has been in the feed quality indications.

Clover growth Site – Kawakawa Legume growth – September & October 2017 24 day period – 19 Sept to 13 Oct		
Species	Mass on hand at harvest kg DM/ha	Daily Growth Kg DM/ha/day
Alsike biannual clover	4282	89
White clover mix (mainstay & kakariki cultivars)	4110	74
Persian annual clover	4080	90
Burr medic plus Italian grass	4783	102
Aberlasting kura hybrid perennial clover	3062	80
Mixture of annual and perennial clovers – Road End	4149	89

Points:

- Limited difference in growth between these species for this period: but the standout area of one plot was where there was a strong presence of both Italian ryegrass and Burr medic (this Burr medic being a true annual)
- very strong growth rate for this period. This has followed what had been a slow establishment period from an 8th May 2017 sowing date. While these growth rates were over a short period, they were exceptional
- some plots sown in May have failed. Arrotas arrowleaf annual clover, tick bean, crimson and burr medic annual have failed. We expected the arrowleaf to fail but the burr medic when sown on its own, was a disappointment. Along with tick bean, these failures were either lack of nodulation, and so plants running short of nitrogen and/or combined with the species not being suited to moderately wet soils e.g. arrowleaf needs dry soils for its root structure. On these soils, apart from straight out wetness, the presence of soil-borne fungus attacking roots of the clovers, especially the annuals, has been a major concern.



***Cookson's
Annual clovers
showing major stress
from soil-borne
fungus attack on root
structure***



**Duncan Bayne – cutting cage 9 Nov 2017
being Persian annual clover-dominant**



**9 November 2017: 14-month bulls
grazing heavily-flowering balansa
annual clover**



**18 month-bulls grazing Persian-
dominant pasture**