

Newsletter No. 11

March 2019

A “Summer of 2 halves!”

Some superb growth rates from red clover in December and into January, but as the lack of rain started to be felt, some “single figure” growth rates for February on our drier, free-draining soils are being seen.



**NORTHLAND'S
DIVERSIFIED FORAGES**

Summary Points

Some superb results:

- Lucerne production @ 67 kg DM/ha/day for mid-Jan to mid-Feb 2019. This superb growth from an extremely dry soil.
- In comparison, rye, white & red clover + plantain grew @ 6 & 8 kg DM/ha/day for the same period under the same very dry soils.
- Plots at NARF have “turned into” red clover plots: This red clover has grown @ 100-120 kg DM/ha/day during superb growth conditions in December and up to mid-January. Considering the dry conditions, it was still growing very well, averaging 43 kg DM/ha/day for mid-January to start of March.
- Superb eleven-month production of 18,200 kg DM/ha across the various treatments at NARF.

Lucerne has been the stand-out for Roger & Barbara Gillatt once again: This at Te Kopuru on free-draining sands.



Lucerne – 16 Feb 2019

Growth for the period 13 Jan to 16 Feb @ 67 kg DM/ha/day. This on very free-draining sand, which had an extremely low soil moisture of just 4% by volume.



Ryegrass + clover + plantain – 16 Feb 2019

A pasture sown into ryegrass, white and red clover, plantain and annual clover in April 2018. This pasture established and grew very well up to when the very dry soil conditions hit. Growth for 13 Jan to 16 Feb @ 8 & 6 kg DM/ha/day for the 2 paddocks being monitored. Soil moistures were 6 & 7% for these 2 paddocks. No real difference in soil moisture between the ryegrass mix paddocks & the lucerne paddocks but a huge difference in daily growth rate: 67kg/day compared to an average of 7kg/day, for the 34-day period 13 Jan to 16 Feb.

Seed Quality

Each year within the project, we have had some issues with seed quality. Even in autumn 2018, one line of seed that we used had a very low germination figure: A line of cocksfoot @ 44% germination. I am very sure that 100% of the problem with this seed was that it had been stored for a number of years in the Far North, without special conditions, such as in a coolstore! This has negatively impacted on the cocksfoot plant population, as the very low germination figure has resulted in an “effective” sowing rate of just 2.2 kg/ha compared to the 5kg/ha we were targeting. Another example of low or nil seed germination is shown below:

Problem with seed?			
Seed sown in 2018 Amount & Quality			
SEED GERMINATION RESULTS			
	Total Seed Sown Kg/ha	Germination %	Viable Seed Sown
Balansa	4	82	3.3
Persian	6	95	5.7
Berseem	10	92	9.2
Alsike	10	84	8.4
Red clover	4	87	3.5
White clover	3	91	2.7
Ryegrass	10	94	9.4
Tall fescue	15	92	13.8
Cocksfoot	5	44	2.2



Storing seed, especially if it is coated, on farm, from one year to the next does “not work” in Northland.

This photo shows the hugely negative impact on potential seed germination when clover seed is “incorrectly” stored in Northland over a 12-month period!

NARF Data

Under dry conditions for Jan – Feb, while the growth rates have decreased at NARF, they still have been impressive. The 12 treatments that had a grass, white & red clover plus an annual clover sown on 13 April 2018, averaged growth of 43 kg DM/ha/day. Similar to the huge surge of growth during Dec & early-January, a very high percentage of this growth has been by red clover, at 94% of the plant material grown.

From 13 April up to 3 March these 12 treatments have averaged 18,200 kg DM/ha. With moderate growth for March, this average for a full 12-month period will go to 20,000 kg DM/ha: Superb production!

NARF – Plot Data 2018/19

- Oct – growth of
 - 104 kg DM/ha/day Ryegrass + Persian annual clover
 - 99 kg DM/ha/day Cocksfoot + Persian

- Dec & Jan
 - 117 kg DM/ha/day Ryegrass + balansa annual clover
 - 117 kg DM/ha/day Tall fescue + no annual clover
 - 117 kg DM/ha/day Ryegrass + no annual clover
 - 124 kg DM/ha/day Tall fescue, cocksfoot + balansa

Superb growth conditions.

Red clover contributing 90 to 95% of this Dec-Jan growth, across all plots At NARF



Plots of grass
and clover mixes
at NARF -
Jan 2019
With growth rates
up to 120 kg
DM/ha/day
during Dec/Jan



2 March 2019

NARF plots with red clover dominating all plots and a growth average of 43 kg DM/ha/day for the Jan/Feb period.

These growth rates are seen as more than acceptable under the dry soil conditions through that period.

Ministry for Primary Industries
Manatū Ahu Matua



Hine Rangi Trust

**T.R ELLETT AGRICULTURAL
RESEARCH TRUST**

