

# What is the Financial Benefit of Growing Good Young Stock?

Dean Alexander, Dairy Farmer, Winton

## Introduction

Dairy farming 570 cows at Winton on 193 ha with adjoining 50 ha leased runoff, completed 4 seasons as Dairy Farmers, previous to this we were Sheep and Beef farming in the Waikato. We operate a grass/silage based system with no in-shed feeding, producing 280000kgms at just under 1500kgms/ha or 480-500kgms/cow. Our heifers have been producing at about 420kgms/hfr.

Always had an interest in good stock, family always been part of a sheep breeding group. We have a good understanding of livestock genetics and like to see stock given the chance to reach their genetic potential.

Started Dairy Farming in 2010, first crop of young stock headed out grazing May 2011, second crop January 2012 as calves to the same property as our R2yr hfrs as dry summer and we had limited runoff area next to the dairy platform. March 2012 became concerned about the quality of this grazing (growth rates and animal health). This coincided with doubling the area of the leased runoff we have, so decided to bring all young stock home to this block and manage all young stock grazing ourselves. Have done this since. **WE HAVE CONTROL.**

## What does growing good young stock mean?

What genetic base are you starting from?

- The quality of your herd
- What quality of bulls will be used over these cows (**growing good young stock starts from the day you inseminate the cow**)

Achieving per determined targets (eg. in-calf rates, growth rates, death rates, culling rates)

- This may be MINDA LW or own targets, but must be predetermined
- Ability to cull animals that are not up to target will help produce a better final product

Stock health

- Regular drench and vaccination program

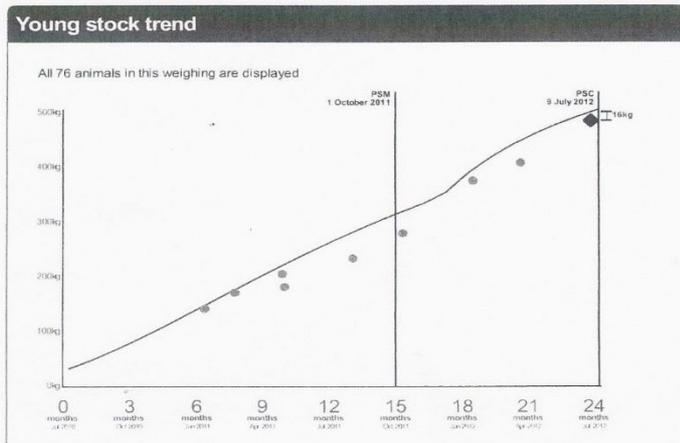
#### Personal satisfaction

- It can be very demoralising when stock are not up to set standards, it may affect them for life and you will always look at the line of stock with regret.

The definition of good young stock must be something that you are in total agreement with your grazier, his idea of good might be different to yours.

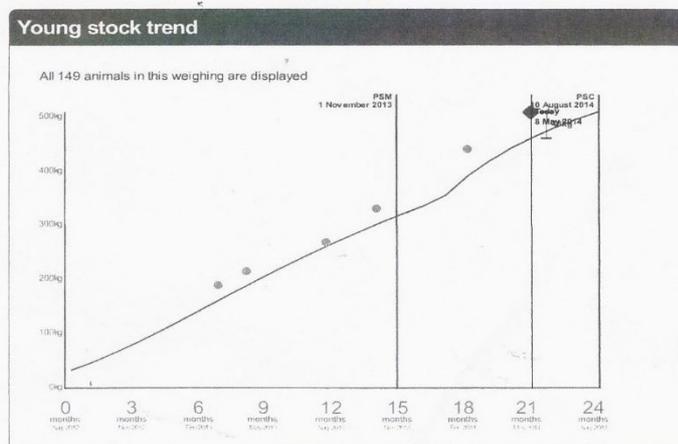
The following graphs give an indication of the difference that we have made to the LW of the heifers entering our herd through the changes that we have made.

## Overview of 2010 Spring as at 28/06/2012



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## Overview of 2012 Spring as at 7/05/2014



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## Financial Benefits

We need to try to quantify any benefits that we may achieve from growing good young stock in terms of profit.

We have completed some analysis of our young stock that have entered our herd over the past two years. This analysis has been limited to the animals within our

mob, it is likely the findings may be slightly different if analysing a larger group of animals from many mobs, however we believe they give a good indication of some of the financial benefits that may be available. (A relatively un-scientific farmers analysis)

Being able to generate more production per head will be the main driver of profit. Another factor that may affect the long term profitability of an animal is its ability to get back in-calf and therefore last future seasons in the herd. Does LW entering the herd have an effect on this?

**We must always remember that the costs are often similar for producing a poor vs a good heifer.**

***Some of the factors that affect production per head***

**Genetics**

**Live-weight**

Days in Milk

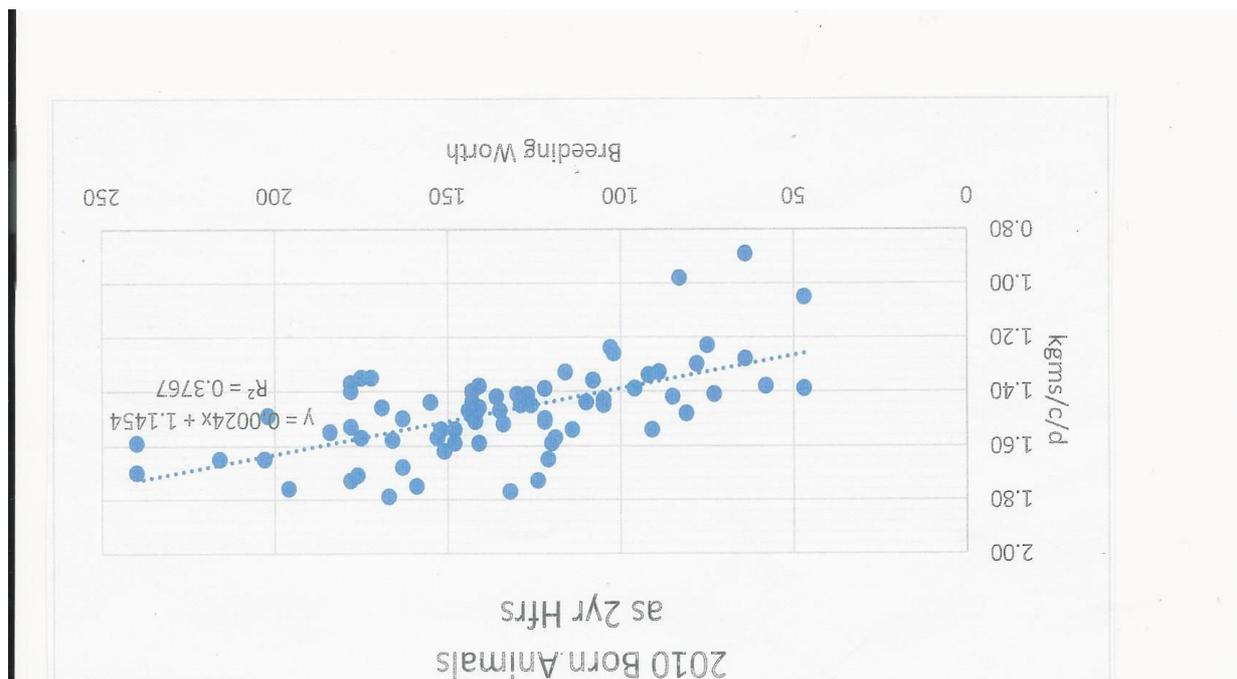
Animal Health

Management

Environment           - Climatic  
                                  - Within herd

Genetics and live-weight at planned start of mating are a couple of the factors that we can have a big influence on when growing our young-stock, the other factors (and I am sure there are more) are issues that face the animal after it enters the herd.

## Genetics



The above graph shows that there is a reasonable correlation between increased BW and increased production per head. But how many \$'s does this generate.

From the equation of this correlation we can derive that an extra 20 BW in our hfrs will give 0.048 kgms/c/d which over 260 day lactation equates to 12.48 kgms/c/yr. The average r-squared of this correlation from the data that have been collected is 0.41 (ie. 41% of this increase in production can be attributed to increased BW).

Therefore at a \$6.50 payout the increased profit from an increase in BW of 20 is:

$$\$6.50 \times 12.48 \text{ kgms/c/yr} = \$81.12/\text{c/yr}$$

If you have a herd of 600 cows this equates to increased profit of \$48672/yr (An assumption has been made here that the same correlation applies for older cows in the herd)

### ***How can we have an effect on BW?***

Buy better BW animals when we start

Use better BW bulls for breeding replacements

Culling - hfrs entering the herd

- cows leaving the herd

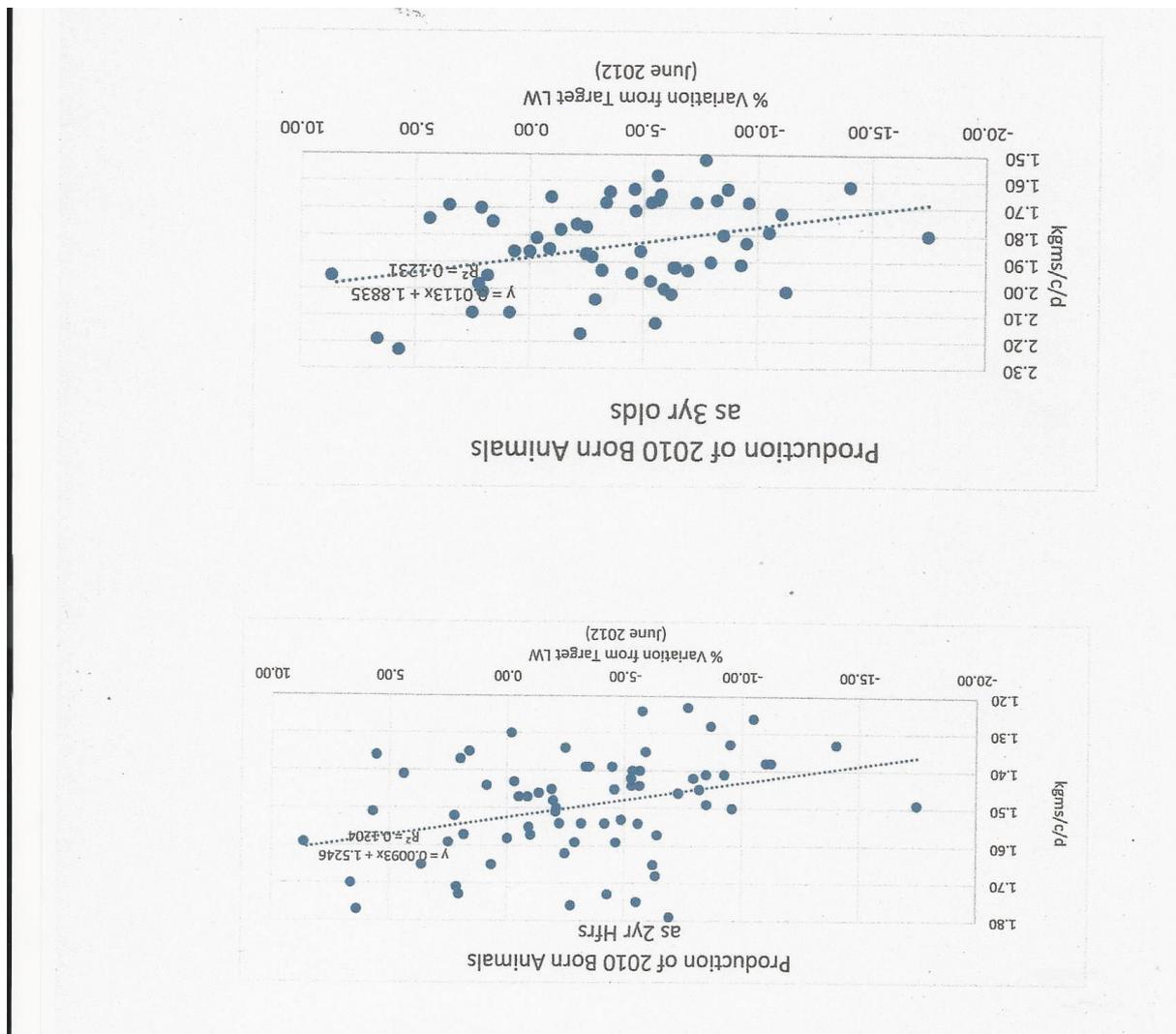
With our group of Hfrs if we were able to cull 10% of the animals on BW the average BW of the line increased 9 points, if we could cull 15% of the animals the average increased by 13 points.

If we culled 10% of hfrs on BW every year and increased the BW by 9, the cumulative effect over time would be:

$$0.0216 \text{ kgms/c/d} \times 260 \text{ days} \times 600 \text{ cows} \times \$6.50/\text{kgms} = \$21902.40/\text{yr extra profit}$$

It should be noted that BW does not play a large part for us in the selection of our genetics. We place a large emphasis on individual traits of importance to us and family breeding lines, this often naturally selects some of the higher BW bulls, but not necessarily the highest.

### Live-weight



Using the above equations from the graph for our hfrs as 2yr olds it can be derived that lifting the average LW of our hfrs by 5% (25kg on a 500kg animal) will give 0.0465kgms/c/d.

Therefore:  $0.0465\text{kgms} \times 260 \text{ days} = 12.09\text{kgms/c/yr} \times \$6.50$   
 $= \text{\$78.59}$  annual return/hfr

\$78.59 equates to **\\$11788** increased income in their first years production for a line of 150 animals

The graph for the same animals milked as 3yr olds shows that the gap in production has increased to 0.0565kgms/c/d, or 14.69kgms/c/yr. Does this suggest that these animals are effected for their lifetime? However some research suggests that they will catch up this lost weight gain as they mature and the gap in production will close.

Note that this analysis was done on our 2010 born animals which had 40% of the animals that did not reach their target LW. The same analysis on our 2011 born animals which had only 1 animal that did not reach target LW shows a lower response to increasing LW of 0.037kgms/c/d. Therefore giving a return of \$62.53 per animal annual return by increasing the LW by 5%.

## **How have we achieved good heifer growth rates**

Control - Since bringing the animals to our own leased runoff we have been responsible for all management of them. If they fail to get to targets, we are to blame.

Monitoring – regular monitoring of stock health and weight gains, this would allow us to make any changes if they were required.

Grazing Management – Quantity and Quality

### Quantity

To achieve our desired results our hfrs must be fully fed from the day they are born, their weight gain needs to be about 650 gm/d from the day they are born. During times of short feed supply we don't hesitate to feed supplement. Our hfrs still have to graze to good residuals, we have never topped after them.

### Quality

We manage the runoff with the same philosophy as our milking platform, regular monitoring of covers to ensure that our hfrs get fed with feed of the highest possible MJME, they very seldom enter a paddock with feed of a lesser quality than the feed we would expect our milking cows to enter. Our hfrs are never given more than a 2

day break, therefore one day of ad-lib feeding, then no more than one day of cleaning up the break.

We believe that this is one of our main points of difference when comparing with other hfrs that may not achieve targets. **Quality Quality Quality.**

Figures taken from 'Dairy NZ Farmfact 3-21 Feed Requirements of Dairy Calves and Heifers'

A 300kg hfr needs 6.6kgdm @ 11 MJ ME/kgDM to put on 1 kg LW

If the feed quality drops to 10 MJ ME/kg DM then that 6.6kg DM will only be sufficient to put on 0.5 kg LW

This shows that a drop in the quality of the feed very quickly has a large impact on growth rates and it is just as important to think about feed quality as it is feed quantity. It does not take many days with feed at a lower quality to have a large loss in potential LW. **We have limited days to put the weight on and any lost days are hard to make up.**

How often do you drive past a mob of young stock next to the road (or maybe your own stock) and see them grazing dry, rank pasture full of seed head and of poorer quality. Their potential weight gains are probably being jeopardised, however it tends to get ignored a lot because it is not measured as easily as milk in the vat