

# CASE STUDY – PURCHASING A MIXER WAGON

## SCOTT AND ANNA FITZGERALD, TONGALA WHAT HAS CHANGED – 12 MONTHS LATER (FEBRUARY 2021)

After making a large change last year to the feedbase and how cows were fed, the Fitzgeralds have continued to refine what they do and reassess their long-term business plans.



*The Fitzgerald family at their dairy*

### Capital purchases

#### During the last 12 months the business has purchased;

A New Holland 4 tonne telehandler for \$155,000 to speed up the time it takes to complete the feeding operation and to free up a tractor.

A larger 28m<sup>3</sup> NDE mixer wagon which was one year old and purchased for \$120,000.

An additional 175HP tractor to run the larger mixer wagon. It was 1 year old and purchased for \$130,000.

The new mixer wagon was purchased to reduce the amount of time it was taking each day to feed the cows. The original mixer wagon was kept and is currently used for mixing up the lead feed rations as it is difficult to fully remove the milker ration from the bigger wagon. This eliminates the risk of accidentally feeding the milking cows minerals and buffers to the transition cows which could cause issues such as milk fever. The original wagon is also a backup in case the new mixer wagon breaks down.



*The Fitzgerald's new telehandler*



*The new 28m<sup>3</sup> mixer wagon next to the older 15m<sup>3</sup> mixer wagon*



*The new mixer wagon being filled with grain*

The original tractor that was running the mixer wagon has been retained for general farm work. It was becoming difficult to have a tractor free from feeding out long enough to get other jobs around the farm completed on time.

## Management changes and learnings

Last year the cows spent most of the days over summer in a sacrifice paddock with good access to trees and fed a mix under a hot wire. Despite smudging the paddock most days, the manure areas near the trees stayed wet and caused mastitis problems. For this reason, the Fitzgeralds this summer have rotated the cows around fresh paddocks each day and night. This resulted in reduced mastitis cases and made managing labour easier by having more flexibility in the timing of when mixes needed to be fed.



*The Fitzgerald's gravel feed pad with hot wires installed*



*The Fitzgerald's gravel feed pad with hot wires installed*



*Feeding a mix out under a hotwire in pasture*

When pasture is available, for most of the year the Fitzgeralds still provide a "mix" to the cows to keep the diet balanced and to make sure the cows are getting enough to eat. To do this, the cows walk from the dairy to the gravel feed pad where a mix is waiting for them under the hotwires, and then they are moved to their paddock for the day and night. While feeding the mix on the feed pad is minimising feed wastage, the extra walking (approximately 1.5km per day depending on which paddocks they are grazing) caused issues over the winter and spring when the laneways became damp. Lameness increased in the herd and resulted in the cows not wanting to walk, also creating extra work moving cows around.

To try and combat the walking issues, last August (2020) the Fitzgerald's stopped using the mixer due to having enough grass for the cows and to reduce lameness issues. Shortly after this some cows started having animal health issues such as LDAs (Left Displaced Abomasum), loose manure and a fall in milk production. To combat this the Fitzgeralds began offering the herd some hay and the cows recovered quickly.

Over the summer (2020/21) the Fitzgeralds have renovated the main laneways including putting sand down. At this stage this seems to have improved the herds health (lameness), but there hasn't been a prolonged wet period to test how well it works. If the walking issue happens again, the Fitzgeralds plan to either just feed the mix out in the paddock the cows are grazing or dropping back to only one mix per day (so the cows are only walking to the feed pad once per day).

The area of maize being grown has increased from 28ha (grown under the pivot) to 37 ha (the additional 9 ha under flood irrigation). This is to further secure the feed base and reduce exposure to the purchased feed market.

Some of the grain mix is being fed out in the mixer wagon now rather than feeding it all in the dairy. This is to help reduce the risk of "slug" feeding the cows. Slug feeding is when the cows are given a large amount of grain in a short period of time resulting in the rumen becoming too acidic. By feeding some of the grain in the mixer wagon it spreads the grain feeding out, allowing the rumen pH to stay more constant.

The transition cows (cows within 3 weeks of calving) are being fed a special mix in concrete troughs. Previously the cows would be fed a "lead feed" grain mix in a trough and have ad lib access to cereal hay. The Fitzgeralds feel that there has been less milk fever and the cows are transitioning better because of the change.

The heifers are also being fed a mix from the mixer wagon this year. Last year they were fed straight vetch hay when grass was not available over summer. While the vetch hay helped the heifers grow well, it was expensive. Using a mix, appears to be yielding a similar result but for less cost.

## Results

The Fitzgeralds are milking around 50 cows more than last year. The amount of labour required has stayed about the same as last year due to the introduction of the telehandler, extra tractor and larger mixer wagon.

The ration being fed to Fitzgerald's 450 cows on the 12th February 2021 was;

**Table 1** Daily feed offered per cow

Product	Kg Dry Matter (DM)	Price (\$) per Kg (DM)	Total Cost (\$)
Barely grain - in dairy	4.95	0.27	1.32
Canola meal - in dairy	1.35	0.42	0.56
Barely grain - mixer wagon	1.80	0.27	0.48
Canola meal - mixer wagon	1.35	0.42	0.56
Vetch Hay	3.05	0.32	0.98
Vetch Silage (wet)	2.78	0.19	0.52
Wheat & Vetch Silage (wet)	6.11	0.20	1.22
Lime	0.08	0.11	0.01
Rumibuff	0.07	2.06	0.15
Maize Silage (wet)	4.44	0.25	1.11
Salt	0.06	0.67	0.04
<b>Total (DM)</b>	<b>26.0</b>	<b>0.27</b>	<b>6.95</b>

The milk production per cow on the 12th February 2021 was;

**Table 2** Daily Milk Production – Per cow

Litres	24.6
Kg Fat	1.11
Kg Protein	0.85
Kg MS	1.96

The following table is a breakdown of the estimated extra costs relating to running the mixer wagon system and income.

**Table 3** Based on milking 450 cows – Feb 2021

Income	
Milk production kg MS per cow	1.96
<b>Milk income</b>	<b>\$14.31</b>
Costs \$	
Feed Costs	6.95
Extra Labour (1.5hours x \$33 hour)	0.11
Extra Fuel (29Lx \$1.10L)	0.07
R&M (\$20,000 per year divided by 365 days)	0.12
Interest on extra machinery (\$430,000 @ 4%)	0.10
Depreciation (\$43,000 per year)	0.26
<b>Total Feed and FeedingOut Cost \$ per cow per day</b>	<b>7.62</b>
<b>Income over feed related costs per cow per day</b>	<b>6.69</b>

## Where to in the future

The Fitzgeralds still plan to purchase the concrete troughs and use them on the gravel feed pad. The troughs are estimated to cost \$160 per metre, or \$36,000 for the full 225 metres.

The concrete feed pad is no longer on the Fitzgerald's priority list. They haven't ruled this out entirely, but if they do, it will be at least a few years away. One of the main reasons for this is that they have decided to stay milking around the 400-450 cows for now rather than continue to grow cow numbers. They feel that 400-450 cows might be a more sustainable number of cows to milk for them in terms of the size of the farm, infrastructure available, risk and lifestyle. They are also focusing on consolidating the business by bedding down the new changes and reducing debt.

### FOR FURTHER INFORMATION

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