

Managing Growth by Pete Morgan

On our 265ha (235ha eff) Pokuru dairy farm, Ann and I have run a simple and robust system 2. We have been able to grow the business, raise a family, take on equity partners and enjoy the challenges and rewards of this amazing industry.

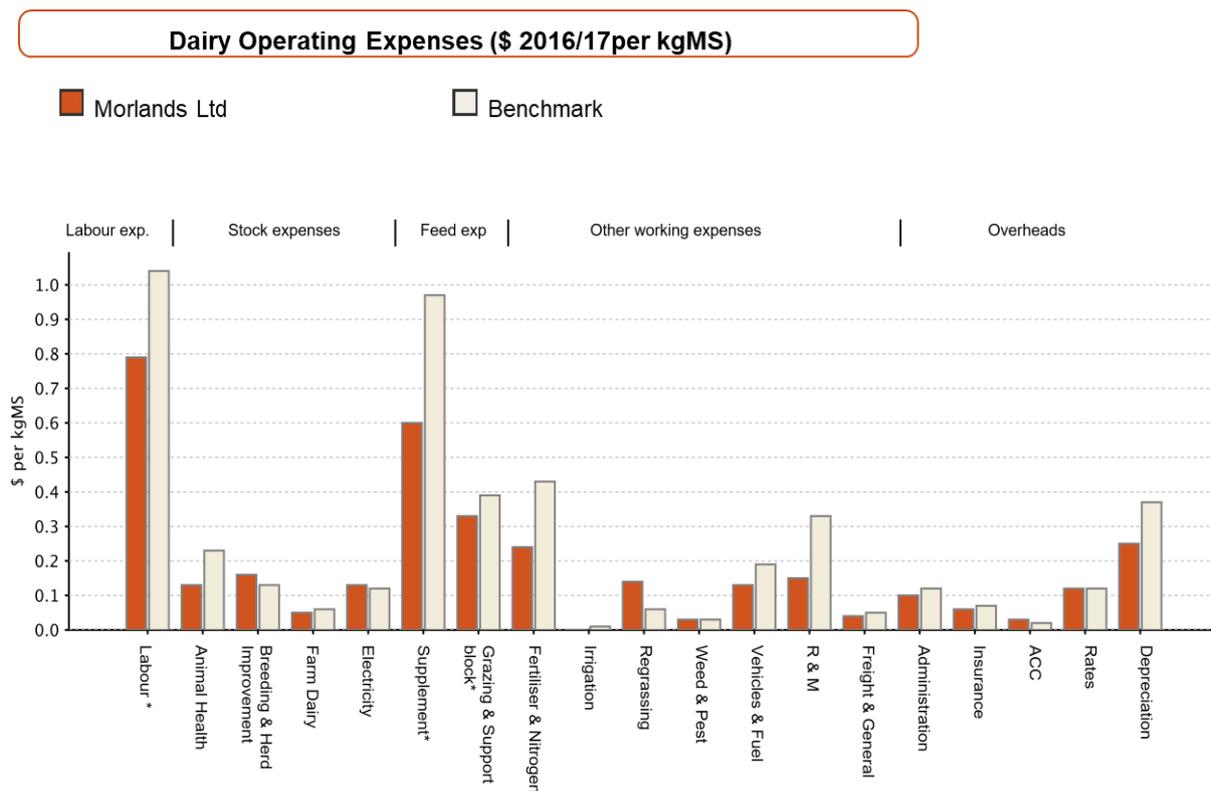
Understanding the primary drivers of our system and managing them carefully has been vital with expansion opportunities and the risks associated with the scale combined with climatic and economic volatility. We want to keep our business resilient while improving our property, our staff and achieve our personal goals.

We both spend a lot of time on budgets – Pete on feed budgets and Ann on financial budgets including cashflows. Budgets are often updated 2 or 3 times a month if things are changing rapidly. One of the most critical things to know if you want to get somewhere is where you are currently.

We use Dairybase as our primary tool to gain a perspective of our business and highlight focus areas.

Benchmarking

The benchmark of similar system 2 farms provides an insight into the main cost control measures that have the largest impact on overall control of farm expenses. Labour and feed costs are consistently the main differences we see in benchmarking. The labour has changed in the last few years as we pay ourselves and our equity partners quite well! While our use of OAD milking and streamlined procedures minimize the labour requirements, it is the feed cost that is the most under our control. The reduced R&M and vehicle and depreciation costs reflect the reduced machinery



Underpinning the efficiency of our system is consistently making good feed management decisions. However, as we have grown in scale and are pressed for time we have delegated more of the process to young keen staff. So, how do we grow and maintain the skill of pasture managers?

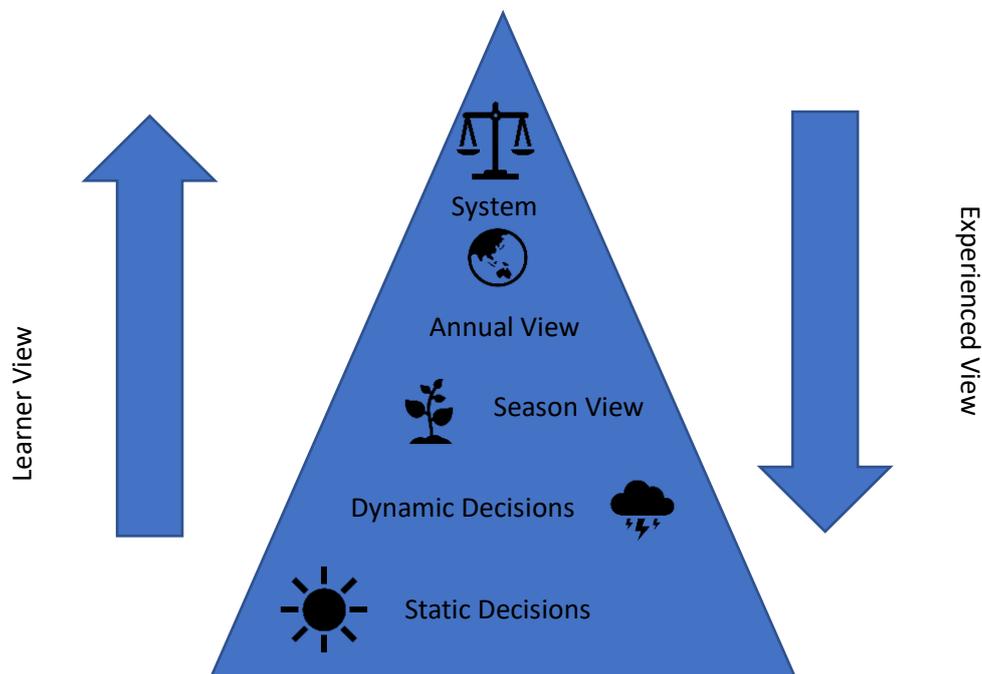
With experience we see the big picture, have clear goals, set targets and execute plans

They see hungry cows and lots of grass or none! We need gradually build a robust support structure to help them learn and for us to pass over the responsibility. To do this we need to understand how we learn this skill.

Perspective

We manage feed decisions across a range 5 perspectives and develop the detail and nuances as our experience and knowledge grows.

1. Static. Immediate requirements of stock in a single grazing
2. Dynamic. Flexibility accounting for previously actual intakes and utilization changes.
3. Season. How the static decisions need to change to reach seasonal targets
4. Annual. Supply and demand curves for the year and setting the season targets.
5. System. The demand and resources must be balanced.



With experience we manage from 5 to 1.

1. You understand the system. What effective area, infrastructure, feed grown and bought in are required to balance requirements of the stock numbers. The simple big numbers give an idea of viability when applied to production and the costs.
2. The annual flow of all the seasons and where the risks and opportunities are
3. Each seasons target is set to optimize performance and prepare for the next period.
4. Dynamic and flexible responses when making decisions and contingency plans are made.

5. Static simple feed allocations made each day for stock.

While there are key calculations that are necessary to quantify feed supply and requirements, their effective application is very challenging without good judgement and experience.

How we teach pasture management to our staff needs to take them through the journey from the small to the big picture, give them guidance and responsibility of decision making, imbed the wider considerations and appreciate the longer-term implications of daily practices.

Managers must get continuity of responsibility to follow through on the results of decisions. This is enhanced by regular observation of residuals and animal behavior during the grazing period, carrying out the farm plate-metering or assessments themselves and discuss the results regularly. The advantages of first-hand observations cannot be overstated especially when ample time is given to follow-up discussions that give context, perspective and ensure they are on track to achieve targets. Gradually the principles behind the decisions dominate and improve the efficiency of the process.

Learning

As a learner the order is reversed. It is very difficult to understand what current actions are needed to achieve a future target but may obvious to us. For them then they need to work through a simple understanding of the issues at each level and build their knowledge.

1. The static feed allowance decisions are calculations using pre and post cover information and stock requirements. Supplement is added if necessary.
2. These allocations need to be dynamic and altered according to utilization to ensure intakes remain constant.
3. Round lengths, supplement use or conservation and allowances are altered to achieve critical BCS and cover targets for a period.
4. Seasonal feed budgets, spring rotation planner and critical cover calculations are used to manage periods ahead and
5. The supply and demand of feed for the year generate the comparative stocking rate giving you confidence that you are optimally stocked.

Effective learning is optimised when:

1. The right objective calculations are used consistently.
(eg $\text{Critical cover requirement} = \text{stocking Rate} \times \text{Intake} \times \text{Round} + \text{Residual}$)
2. The subjective considerations modify are regularly monitored.
(eg leaf stage, stem ratio, grazing behaviour)
3. The external factors are regularly discussed, and dynamic adjustments rationalized
4. Seasonal budgets, targets and goals are outlined, and financial considerations are used
(cost/kgDM, cost/kgME, breakeven)

Most importantly to learn a person must be responsible for as many of the decisions as possible. There is no replacement for following the consequences of your own actions, ideal or not.

With an increasing knowledge and appreciation of the structure of feed management decisions they also realize that it has much wider implications beyond ensuring stock are fed adequately each day. Success of all the major events in the season, calving, mating, drying off, cost of production, operating profit, animal welfare and the impact environment all hinge on feed management. The

complexity of these decisions, particularly in the absence of complete information, is challenging. The seeds to the answer to any problem however lie in the level above.

Technology

With volatile climatic, farm scale increases, time pressures and the scarcity of farm managers we will always struggle to find and train enough people. Technology already has range of tools available that will support our management and their role will become very significant in the future.

Hardware: The plate meter brought an objective standardized measurement to pasture covers and we now have drone and satellite options using NIR radiation that are finally cost effective and increasingly reliable. Networked in with other 'Internet-of-things (IoT) we have measurements from a mesh of other components (soil moisture, fertility and aeration, climate etc) enabling us to understand and predict factors affecting growth.

Software: Databases and apps that help us 'live' manage information from IoT and decisions to optimize nutrition and feed budgeting. These are linked to simple dashboards enabling us to monitor key indicators of performance.

Virtual fencing will soon give us the interface between our hardware and software to develop algorithms around that better control feed decision, animal movement and environmental management.

Like every other aspect of life, artificial intelligence and gene editing will revolutionize farm systems as we know it and we need to embrace and steer it to keep us sustainably producing a high-quality food for a hungry world.

Future

Of all the alternative career progression models, the potential of sharing and maximising the leverage of combined equity has appealed to us. We have explored the potential of equity partnerships (EP) for 10 years. We have also realized that it has the potential to fail, causing significant and complicated problems. We knew that a broad and thorough approach would be needed to make an EP work.



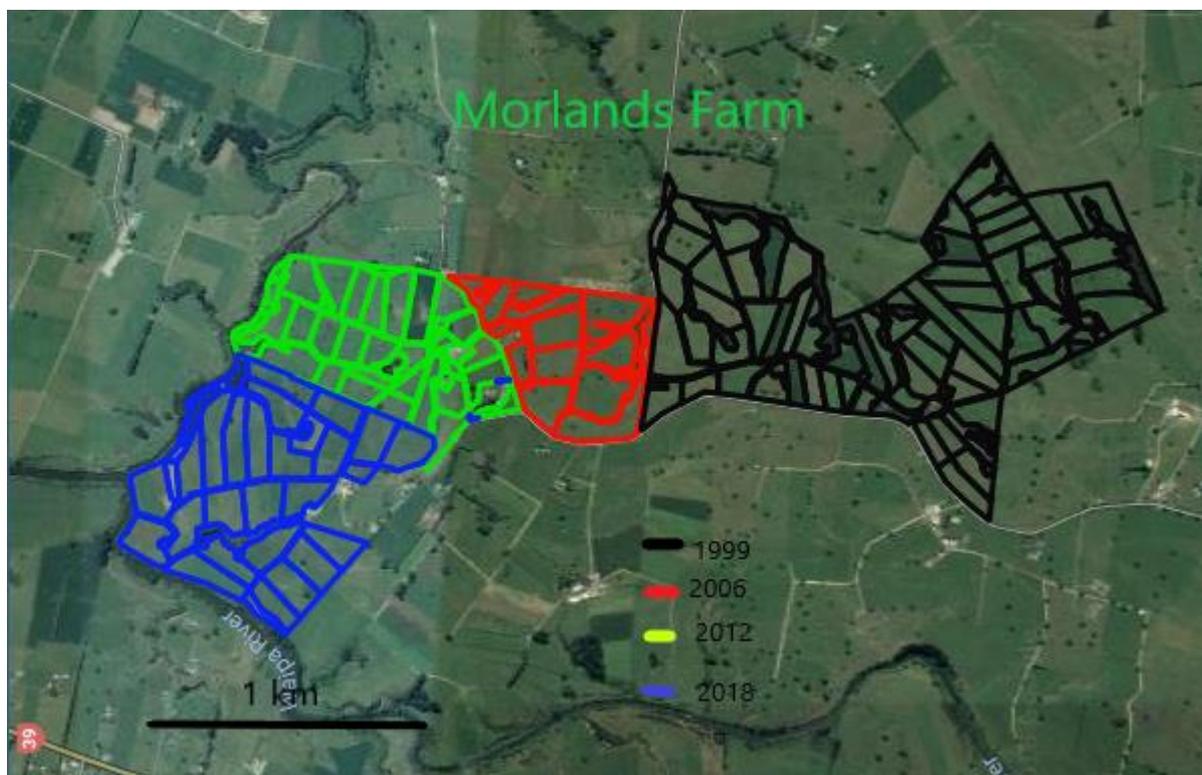
We are in the second year of our EP now and has seen us able to take advantage of the biggest opportunity with an adjoining property that enables us to manage the farm as both a single unit for winter and spring as well as 2 separate units for the milking season, achieving the optimal synergies of large and small scale.

Current situation

265 ha comprising two adjoining farms

North farm	125 effective ha
	Milking 336 cows and carrying 104 replacement calves
	5 ha planted in maize
	1.4 ha planted in chicory
Infrastructure	28 aside herringbone cowshed
	Feedpad
	Inshed feeding system plus silo
	2 concrete silage bunkers
South farm	110 effective ha
	Milking 319 cows and carrying 36 calves
	2.5 ha planted in maize
	7 ha planted in chicory
Infrastructure	34 aside herringbone cowshed
	1 concrete silage bunker
	Calf feeding facilities including colostrum vats

All 4 equity partners work in the business, each couple providing 1 labour unit between them and each of us with different areas of expertise. We also employ 1 part time and 2 full time assistants.



Conclusion

The ebbs and flows of our seasons provide opportunity for growing and utilizing low cost, high quality pasture while creating challenges that draw on all our knowledge and experience. Even with the tech solutions coming can't do it alone. With aging owners and operators and competition from

other trades with perceived lifestyles and career paths, good young farmers are scarce. With an increasing distance between consumers idea of what we do and the realities of farming, a wider understanding of how we manage the seasonal growth not only by our future farmers but by the wider community will help get our story across and ensure our viability and retain our right to farm.