



## ADAPTING TO A CHANGING CLIMATE: CASE STUDY 18

# AUTUMN CALVING

## Building drought resilience in a dairy system

### THE FARM

- 135-hectare dairy farm with 443 cows in Pukekohe, south of Auckland.
- First season maize harvest of 60 tonnes during a drought year.
- Annual rainfall of 700–1300mm.
- A four-year re-grassing programme is underway.

### THE FARMER

- Alan Cole.
- Successfully pulled the farm through drought with minimal impact on production.



*An Auckland farmer has adapted his dairy strategy to shift production and take advantage of the changing regional climatic pattern.*

Alan Cole's dairy management plan has always taken the region's dry summer period into account, which typically lasts 4–6 weeks and depletes feed stocks. But he decided to further adapt his management practices when he noticed climatic conditions were changing and the amount and timing of summer rainfall was becoming much more variable.

"We tend to stick within those ranges (700–1300mm) all the time, but recently it was like chalk and cheese – one year was wet in the dry months and it was opposite the next year."

The 2008 drought is one of the two worst that Alan has experienced, and it challenged his ability to react quickly and still obtain his farm goals. Although affordable supplementary feed supplies had usually been available, prices rose significantly that year.

### ADAPTING TO DROUGHT CONDITIONS

Alan believes his autumn calving strategy had the biggest impact on building the farm's resilience through the drought.

The farm had always undertaken some autumn calving, to dry off cows and conserve pasture growth during the expected dry summer period, but that year Alan undertook his strategy even more vigorously.

Because rain hadn't fallen by late summer, he dried off the cows early and sent most autumn calves away to graze. If rain had subsequently fallen, there may have been no need to do this, however, the decision was consistent with Alan's farm plan and it carried no negative impacts.

He now plans to shift all calving to autumn, so that stock is dried off between January and March. The farm will maximize production during the growing season and shift feed demand away from drought-prone months.

In addition to his autumn calving strategy, Alan increased the amount of home grown feed the farm produced.

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# Key points

1. Alan developed a strategy that takes advantage of changing climatic conditions.
2. All calving is undertaken in autumn so stock is dried off during drought-prone months. This maximizes production and shifts feed demand.
3. The farm uses detailed financial scenario building and decision-making as part of its planning.
4. Alan uses his established farm plan to help make financial decisions.
5. Forward planning means that there is time to prepare for potential difficult growing conditions.

He planted maize for the first time in 2008 as a buffer against the expected drought, and to find the cheapest option for additional feed during the dry period. The planted area of just over three hectares yielded 60 tonnes that was cut in February.

The maize also improved the effluent paddocks and contributed to a four-year re-grassing programme. Alan had identified that the pH level on his eight effluent paddocks was rising dramatically even though no fertiliser or lime had been added.

“The idea was that I'd put two maize paddocks in each year and try to suck some of the nutrients out,” says Alan.

This has improved feed outputs without negatively affecting other farm activities.

“All I'm doing is shifting that bulk of feed I grow in the spring into this “hole” here. I didn't actually de-stock anything, which meant my stocking rate actually went up over this period.”

Alan hopes to lower maize crop expenses by working collaboratively

with other farmers in his area, for example, by using one contractor to work on all their farms. Participating farmers benefit from the shared knowledge and experience while the maize crop has proven its success to prevent feed shortages during drought.

## PLANNING BUILDS FARM RESILIENCE

The changes Alan made to calving and feed production have dramatically improved the farm's resilience in drought years, but they've also paid off in the years when rainfall has followed a more expected pattern.

Alan has set the top price that he is willing to pay for off-farm feed because he believes it is can be impossible to maintain satisfactory levels of production in difficult growing conditions. Farmers should have an established plan to inform financial decisions such as buying supplementary feed, early culling, and destocking, he says.

The drought also encouraged Alan to extend his planning horizon.

“You're always looking out farther. You know if a dry spell's coming, you've got these options and you need to act quicker than you normally would.”



### THIS IS ONE IN A SERIES OF CASE STUDIES CALLED ADAPTING TO A CHANGING CLIMATE

Published by Ministry of Agriculture and Forestry  
PO Box 2526, Wellington 6140.  
Freephone: 0800 008 333  
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- Check the expected climate conditions for your region from the National Climate Centre [www.niwa.co.nz](http://www.niwa.co.nz)
- Find out how agriculture is likely to be affected by changing climatic conditions in *The EcoClimate Report: Climate change and agricultural production* published by the Ministry of Agriculture and Forestry [www.maf.govt.nz](http://www.maf.govt.nz)
- *Introduction to Climate Change 7 – Effects and impacts: Waikato and Bay of Plenty* available at [www.maf.govt.nz](http://www.maf.govt.nz)