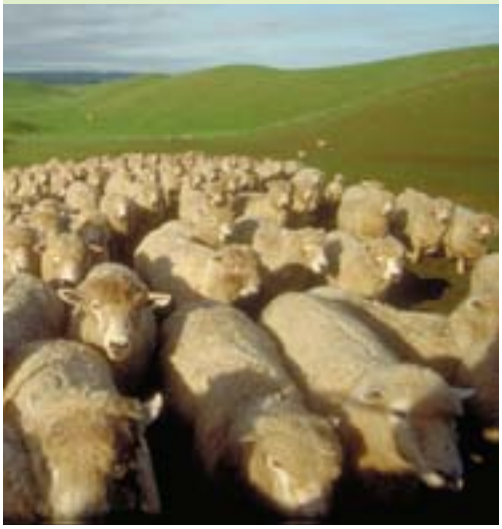


REDUCING RISK
Combining complementary farming blocks in different climatic zones

THE FARMS

- Two blocks of Oamaru land, two different land classes and two different climatic zones.
- The Dunblane property is a 423-hectare intensive sheep and beef finishing farm, four kilometres east of Herbert.
- Dunblane is close to sea level and receives 585mm of rain annually.
- It is owned and operated by Ross and Jackie Beckingsale.
- The Loman property, bought in 2004, is a 1197-hectare extensive tussock sheep and beef breeding unit, 12 km directly west of Maheno, and 14 km northwest of the Dunblane property.
- It is operated by son James.
- Loman rises to 500 metres above sea level and receives about 890mm of rain annually.
- The Loman operations are low cost; using less than 20 percent of the total labour and even less of the working expenditure for both properties.



RESPONDING TO A CLIMATE CHANGE THREAT

The Beckingsales run an Otago sheep and beef operation with two blocks of land in close proximity but in different climatic zones. This provides flexibility in responding to business risk and local climatic conditions.

TABLE 1: PROPERTY CHARACTERISTICS

	Dunblane	Loman
Land type	Intensive finishing farm/ block	Extensive tussock farm/ block
Rainfall	585mm	890mm
Altitude	Sea level	Up to 500 metres
STOCK AS OF JUNE 2008		
Breeding ewes		2433
Mixed sex hoggets		350
Breeding cows	5	120
Rising two-year heifers		49
Rising two-year steers/ heifers	22	
Rising two-year bulls	613	
Breeding bulls		8
Rising one-year heifers		48
Rising one-year bulls		101
Rising two-year hinds	135	

Ross and Jackie initially purchased Loman because they wanted to expand the business to include their son James, and to source their own store stock to decrease exposure to market price volatility. The family also had an emotional connection with high country/extensive hill block farming. The inclusion of the hill block into their farming operations has given them greater flexibility to adapt to climate variability and change.

IN-LINE FARMING ON COMPLEMENTARY PROPERTIES

One plus one is sometimes three, which is definitely the case once the Loman hill block was included in the Dunblane equation. As a standalone farming enterprise, Loman would at best be marginal and most likely an unprofitable operation. However, in combination with the Dunblane finishing property, the best characteristics of both blocks can be realised.

A return to sustainability

The farming season starts at Loman: the breeding block supplies lambs, steers and some bulls to Dunblane. Lambing starts in October as grass growth takes off. Such late lambing reduces the risk to lambs from late winter storms and snow events. The rising two-year-old beef and deer that are carried on Dunblane in winter and spring are also more resilient to such events.

Lambs are weaned in February and transferred to Dunblane for finishing. By this time, the worst of the summer dry conditions are over and the pasture growth rate increases substantially as the late summer and autumn rains kick in. The lambs are typically sold between April and June, taking advantage of the generally favourable winter contract prices.

Non-replacement heifers are sent from Loman to Dunblane in February/March and finished, while the bulls are grown and sold as terminal sires for dairy farmers. Additionally Dunblane buys in rising one-year bulls and steers, and finishes these over winter and spring for sale as two-year-olds.

Deer breeding and finishing currently take place only at Dunblane. However, it is planned to expand this to Loman.

The Dunblane property – an intensive finishing farm.

INCREASED RESILIENCE TO CLIMATIC PRESSURES

A key outcome from the Beckingsale farming system is an increased resilience to adverse climatic events and longer term changes in climate. The interplay between the two properties reduces risk and increases the business' capacity to adapt and change in several ways:

- The late spring lambing on the hill block minimises the risk from adverse late winter events, for example, heavy snow and prolonged periods of cold weather. The snow event of 2007 is one example of an adverse event that was successfully mitigated. When many neighbouring farms were struggling with newborn lambs, the Beckingsales had yet to start lambing and their more resilient beef animals were holding their own. With an expected increase in the frequency of severe snow falls (although of shorter duration due to general warmer conditions), the risk for this farming system is substantially reduced.
- The brunt of summer droughts on the Dunblane intensive finishing block is mitigated by not carrying any breeding stock and having a substantially reduced stocking rate in the summer. Ninety-six percent of the finishing beef stock on Dunblane are gone before the dry conditions of January and February, which allows the pastures to recuperate and rest during this period. When lambs arrive from Loman in late February, the pastures are well set up to maximise grass growth during late summer or early autumn rains. With climate change the projected frequency and severity of droughts are expected to increase and the average summer will be drier. The Beckingsale's farming system has all the characteristics required to successfully adapt to these conditions.
- Feed quantity and quality can be managed by shifting stock between the blocks. The two properties are in essentially two different climatic zones with substantial differences in rainfall and temperature. Any adverse climatic impact on one property may be less intense on the other, reducing the total impact and providing an opportunity to shift stock between properties.

TABLE 2: MANAGEMENT OF LOMAN AND DUNBLANE

	Dunblane	Loman
WINTER	Mainly finishing stock are carried.	Mainly breeding stock are carried.
SPRING	Bull beef are finished and breeding bulls sold as terminal sires.	Lambing and calving commence.
SUMMER	Supplements are made in January. 96 percent of the Dunblane "finishing" stock are sold.	Lambs are weaned and sent to Dunblane in February. The reduced feed demand allows the cows to be on a rising nutritional plane for mating.
AUTUMN	Lambs are finished and sold.	Flushing and tupping. This is also the time that stock can be juggled between properties to ensure that each property is well set up for the winter. This decreases the risk of having to sell stock because of feed shortages.

- The finishing property is available for the production of substantial amounts of supplementary feed during the summer which can be used to mitigate a range of adverse climatic conditions. Essentially becoming a (low-cost) feed buffer that reduces risk.

The flexibility afforded by this farming system and how it harmonises with the local and seasonal climatic conditions while reducing the risk from adverse events, is clearly an approach that has worked well for the Beckingsale family.

In the face of projected climate change (with increased occurrence of extreme climatic events, changes in rainfall patterns and temperature), a farming system like this should provide increased resilience and long-term viability.

Land purchase is not always necessary to achieve the benefits of in-line farming and having complimentary blocks in different climatic zones. Leasing land and in-line contracts between farmers are other options.

Key points

1. **The Beckingsale's run two complementary farming blocks in different climatic zones.**
2. **In combination, the best characteristics of both blocks can be realised, one for breeding, one for finishing.**
3. **Adverse weather conditions on one property are managed by moving stock and sourcing feed, from the other.**
4. **The interplay between the two properties reduces risk and increases the business' capacity to adapt and change.**

Close to sea level, Dunblane receives 585mm of rain annually.

The Loman property – extensive tussock sheep and beef breeding unit.

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

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FOR MORE INFORMATION

- Visit the website of the Agricultural Research Group on Sustainability (ARGO) for generic and property specific annual sheep and beef management reports **www.argos.org.nz**
- Read another in-line farming case study from the April 2006 *Country-Wide magazine* **www.country-wide.co.nz**

New Zealand Government

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