Capitalising on the opportunities for agriculture in the Tablelands of southern NSW – a farmer's perspective

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Abstract: *The fourth generation family business has expanded from a market garden and orchard block in 1901 to a high input: high output operation producing prime lambs, conserved forage and seed potatoes. The business continues to evolve and adapt in response to a changing environment. This is a case study that presents the approach of one Southern Tablelands farmer who aims to maintain a high level of production of quality products in a sustainable and resilient farm environment.*

Key words: growing season, feed gap, forage conservation, scale

Background

The Kadwell family settled in the Crookwell area in 1901, operating an orchard and market garden (cabbage, cauliflower, pumpkin, lettuce). Produce was sold at the farm shop and door-to-door, but most produce was sent to the Sydney markets. Production of seed potatoes was started by Albert Kadwell, in the 1940s. The orchard is no longer operational and the key farm enterprises are now seed potatoes, conserved forage and prime lambs. High quality land close to the main farm is tightly held and as a result leasing of land, primarily for lamb and potato production, is important to the business.

Farm description

- The total managed farm area is approximately 590 ha. This includes 320 ha, made up of two adjoining farms immediately south west of Crookwell; 200 ha under long-term lease and 70 ha is leased annually for seed potato production.
- Height above sea level is 1,000–1,100 m.
- An annual average rainfall of 800 mm is historically winter and spring dominant.
- The main soil types are basalt-derived red loams. Other soil types are duplex sandy loams through to heavier textured loams containing quartz. All soil types are naturally acidic (4.1–4.2 pH_{Ca}) and have very high aluminium levels (15–25%).
- The pasture area is under introduced pasture species. The aim is to sow high quality, high yielding pasture species that are suitable for grazing and hay production.
- The irrigated area includes 70 ha sown to seed potatoes and 30 ha of lucerne. Water is sourced from specially constructed farm dams.
- 1,700 tonnes of seed potatoes are produced annually and sold to commercial potato growers.
- 1,600 first cross ewes are joined to Poll Dorset rams; and a variable number of cattle are agisted, depending on seasons – currently 50 cows.

Objectives

Managing a challenging feed gap and efficient integration of enterprises is important for the success of the operation.

Due to the elevation of the property the growing season is short. Frosts are a normal occurrence from April to October, and winters can be very cold. Consequently the growing season for the non-irrigated areas is often only from late September into mid-summer, while there is sufficient soil moisture.

The availability of paddock feed is a challenge for the business. The feed gap is managed by use of high performance pastures that are suitable for finishing lambs and for production of high quality conserved forage (both hay and silage). Ensuring that there is an ample supply of high quality feed to maintain a high stocking rate is a key focus. At any time there is sufficient conserved forage held on farm to drought-proof the livestock operation for two years.

The farm operation

The species of pasture sown depends on where the paddock fits into the potato rotation. A paddock should not be resown to seed potatoes within five years, but we aim for a ten year break between potato crops. Therefore, and depending on lease periods, pasture phases vary from one, three, five or ten years, and the species sown include annual ryegrass, festulolium, lucerne, and fescue or perennial ryegrass, respectively. The grass-based pastures usually include white clover and sub clover – the sub clover varieties are Goulburn and Clare.

Topography and rocky outcrops limit the area suitable for hay and silage production. Lucerne is earmarked for the suitable paddocks, usually as five year stands for forage conservation and to finish lambs.

Fertiliser

Appropriate use of fertiliser underpins the profitability of the farming enterprises. Fertiliser would be the last expenditure item to be cut if cash flow got tight.

Soils are tested regularly and the most cost-effective fertiliser is used to achieve the nutrient targets. While phosphorus is a major limiting nutrient, other nutrients being monitored are sulphur and potassium. Monitoring of potassium is particularly important on hay and silage production areas.

The whole of the managed farm area is part of an on-going liming program to manage acidity and high aluminium levels. Lime is applied at a rate of 5.0 t/ha (2 t/acre), to raise pH to a target of 5.5–5.6 when new country is brought into production. Soils are monitored and lime is re-applied to maintain the pH at this target.

Livestock

Stocking rate is normally around 14 DSE/ha, but varies, depending on the area of potatoes grown. Large framed replacement ewes, sourced from western NSW, are purchased annually.

We aim for a weaning percentage of 150%. Lambs are born in June/July and sold into the trade market between Christmas and New Year, at a carcase weight of 20–25 kg.

Forage conservation

Hay and silage production is an important enterprise. It is produced primarily for use on farm, but any surplus is sold. The annual goal is to have three hay cuts from 30 ha of irrigated lucerne pasture; and depending on the seasons, any surplus growth in the grass-based pasture paddocks is also conserved, as small and large square bales, round bales or as round bale silage.

Carry-over hay and silage not earmarked for our own livestock is sold, once paddock feed is assured. The large number of lifestyle blocks in the region provides a ready market for surplus conserved forage.

Hay and silage paddocks, especially those containing lucerne, are ideal for fattening lambs after summer storms.

Strengths of the operation

The high quality soils, relatively high rainfall and capacity to irrigate are all features of the land we own or manage. The highly productive and diverse enterprises are complementary and capitalise on this resource base.

Solid relationships and good people in the business are often overlooked, but are also an important factor in the success of our operation. We employ four full-time and up to 15 casual staff.

Goals

We are continually looking at opportunities to expand the scale of our business and improve productivity of all enterprises. We aim to be innovative and constantly look to trial new research and adopt new technologies.

The ultimate goal is to pass the farm on to the next generation in top condition, production wise and environmentally.

Opportunities

We do not believe we have achieved the production potential or optimised efficiencies

of our enterprises, so we are always fine-tuning and exploring new technologies.

Our proximity to major cities creates market opportunities; and by targeting high quality we believe there is also potential to create export opportunities for all products.

Our location is also ideal for the development of eco-tourism, in which we are already actively involved.

Challenges

Access to water (licencing and infrastructure) and the ability to harvest water and develop new water supplies limits our capacity to expand.

At a landscape level, reduced funding for development and delivery of extension and training programs by organisations such as NSW DPI and the Landcare model is disappointing. Programs such as Prograze®, LANDSCAN™ and Whole Farm Planning influenced our management and would benefit all farmers. These programs, which were presented by experienced technical experts, challenged our traditional thinking of production at the paddock level and encouraged us to consider long-term goals at the landscape level. The support provided by local coordinators gave us with the confidence to make changes. This approach to educating the next generation of farmers works and is particularly important in regions such as the Southern Tablelands, which attract land holders with variable skills and a diversity of interests.

The future

Any change in management brings with it opportunities and ultimately a new set of challenges. We are entering a golden age for agriculture, with exciting career opportunities for the next generation entering the industry. However, funding support for research and development is essential if agriculture is to be the powerhouse of the Australian economy.