

THE PRODUCTS AND THE PROFITABILITY:

PASTURES, LIVESTOCK AND THE BOTTOM LINE

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Abstract: Pastures both native and improved will continue to be the backbone of the grass fed wool and beef cattle industries. They have enormous potential to improve efficiency and productivity. The exciting thing about this combination is that it can be done in a way that will preserve and sustain our soils, environment and landscape and with good management can actually dramatically improve the situation as we see it today. This is the challenge ahead. To come up with the knowledge to utilise successfully and profitably the knowledge that currently exists and to judiciously use risk spreading and drought avoidance within the long-term planning of every farm. We need to look at long-term storage of pasture excess and to look at drought fodder reserves such as old man saltbush. We need to look at the integration of mixed pastures. We need to look at maintaining over a very long-term, perennial pastures such as lucerne and phalaris, thus utilising the very low costs of a long term perennial crop and to then concentrate on top animal management and even some good animal genetics and then with regular financial planning and as always we must rely on the tests of trial, error and correction.

THE CURRENT SITUATION

The terms of trade of farmers has been declining for the last 30 years so that the price paid for the goods that we produce gets less every year and the costs of producing them get higher each year. Farmers survive because of technical innovations which enables them to more efficiently produce their products and therefore stay in business. However this means that for every farmer who adopts a successful innovation, another less efficient farmer is ultimately pushed out of business. This trend will continue. Average farm size will increase by the process of adjustment that has been going on for at least the last 30 years. The pace of this adjustment will accelerate with time.

At the turn of the century only 30% of the world's arable land had been utilised, but by 1950 this had risen to 60%, and by 1980, 100% of the potential arable land was in use. At the same time, massive land degradation had occurred, particularly in marginal cropping areas including the dry cold deserts of Russia and China, and the hot deserts of Australia, the United States, South America and South Africa.

Massive pollution is also partly responsible for reduction in land productivity in many countries while the urban sprawl is taking away some of the most productive land at an ever increasing rate. However, it is undeniable that overall land degradation evidenced in the loss of the high nutrient top soil through water and wind erosion, the loss of organic matter, the sheer overuse and reduction in nitrogen and phosphorus in the world soils is also having a dramatic effect. Urban areas are now using large quantities of water previously earmarked for irrigation which has reduced crop production in some areas.

With a dramatically escalating population in need of food, we must worry that the current over supply of agricultural products that this is very much a short-term problem. My suspicion is that since the Club of Rome warned of world starvation, nations have put an early investment into agricultural technology and crop land expansion. Policies were put in place in the EEC, USA and Japan, which over compensated farmers and gave super profits. Prospects of increasing agricultural surplus over the next 15 years has lulled us into a period of disinvestment in agricultural research and this is going to rapidly catch up with the world. Australia is a microcosm of this problem, and pasture research, is the poor relation in the whole system.

In the last ten years, since the major 1982 drought, the debt position of Australian farmers (particularly in the wheat/sheep zone) has dramatically worsened. The great misfortune for Australia is that commodity prices across the board have all fallen at the same time, in a very adverse economic climate.

Significant cash flow deficits in virtually every farm in the wheat-sheep zone will be experienced in 1991/92, with price reductions of 50% in the wool and wheat enterprises and sheep prices one tenth of their previous levels. The projected effect of these price changes on equity levels in 1991/92 is shown in Figure 1.

This problem with current low prices is not about to go away and has left rural Australia with a major readjustment problem. Drought is a normal part of the Australian environment but with very low profit margins, little economy of scale and the high cost of new technology, most farmers have no fat in the system to enable them to weather the storm of a one or two year drought.

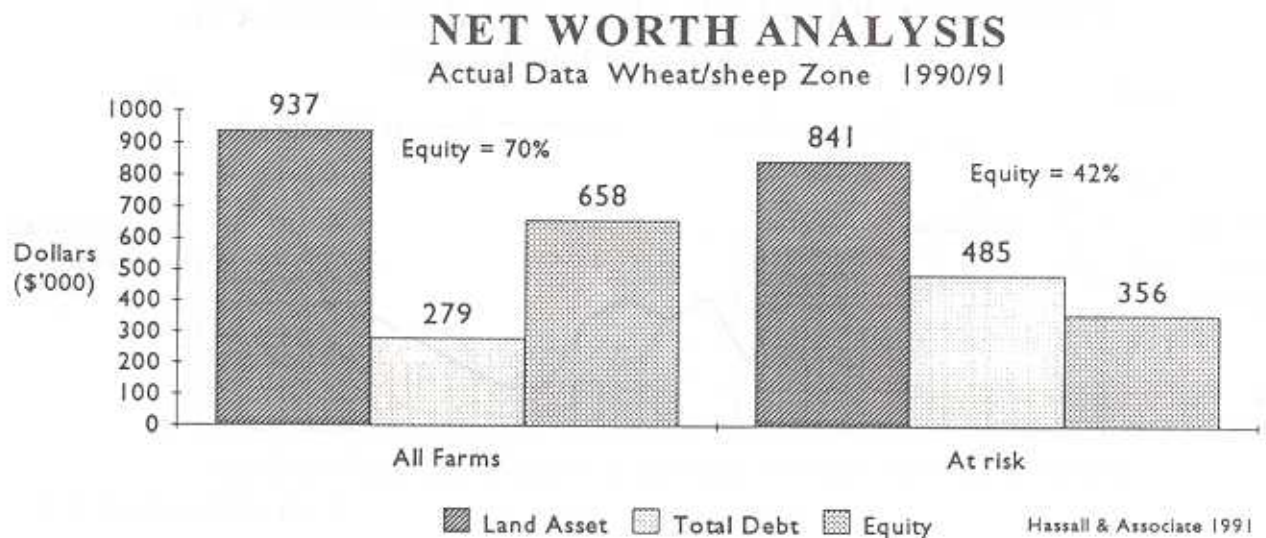


Figure 1: Projected farm equity levels 1991/92.

With a major boom/bust cycle in wheat, wool and cattle during the last 20 years, farmers have been lured into swapping enterprises which has been a very expensive exercise both in terms of capital, and cash flow. The new entrants into the industry are partly responsible for the cycles of under and over production which is the cause for some of the current difficulties.

Figure 2 shows the result of a survey carried out for the Wool Corporation in the wheat/sheep zone in July, 1991. Since then cash-flow deficits have caused this position to worsen considerably, with many farms now at risk of long-term viability.

Given that a significant proportion of producers have an equity of <60%, it will be very difficult for farmers to borrow carry-on funds for the winter cropping program. It will be almost impossible for farmers to repair or replace major plant items in the next twelve months. This means that many farmers can only continue to survive by mining the farms' resources.

The Grass Factory

The profitability of every farm is dependant on three major factors:

1. Pasture Management
2. Animal Management
3. Financial Management

Obviously encompassed within these are the care and management of the people, the management of the soils, and the improvements to machinery - but the three key elements remain. In current farm management planning, you would find that 70% of the effort was devoted to financial management, 25% to animal management and 5% devoted to pasture management.

From the early breakthroughs in new pasture species, through the superphosphate revolution, the wool boom of the 1950's and 60's (which gave sufficient profits to adopt much of this new technology), pastures have slowly dwindled in terms of research interest and farmer demand to the level where very few pasture researchers remain within organisations such as CSIRO.

Unless pasture production and management on a property is first class, then the animal management and financial management will be futile in the short- or long-term. If we neglect pastures as the great strength of the Australian farming environment it will be to the ultimate peril of our soils, our profitability and our ultimate survival. The bulk of Australian agriculture will always remain low-cost production of wool, meat from pastures and cereals. Pastures play an integral role in the viability of the whole farm system.

Animal Performance

There is an ill-defined, but highly relevant dictum which says "the performance of the stock is dependant 75% on what goes

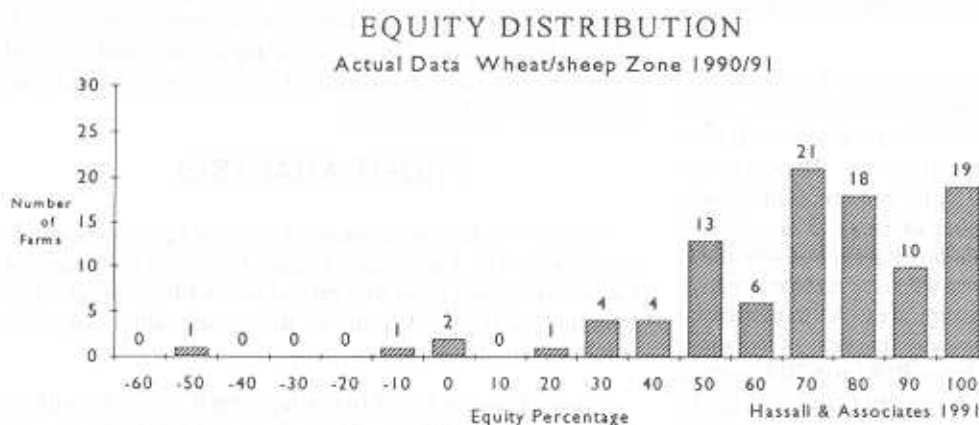


Figure 2: The equity distribution on farms in the wheat/sheep zone 1990/91.

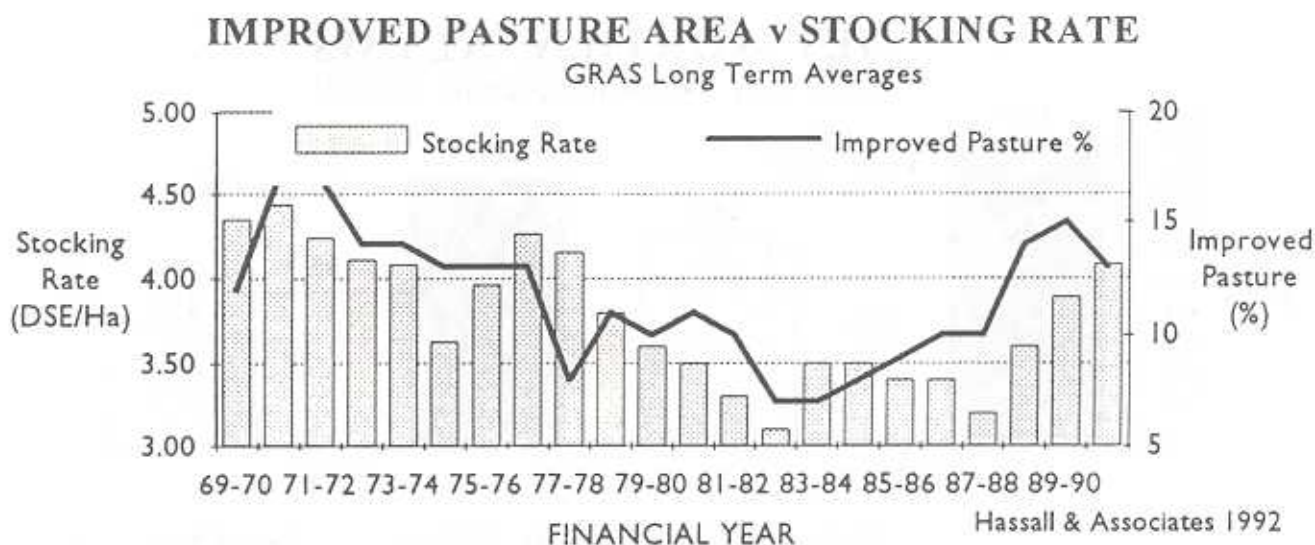


Figure 3: Improved pasture area versus stocking rate at Gulargambone.

down their throat, 15% on animal management and 10% on genetics". It is very easy to develop interest and research funding for genetics, animal health, animal management and animal research, but much more difficult to gather funds and interest for the more mundane every day pasture research which underpins the performance of animal production in this country.

HISTORIC TRENDS IN PASTURE

Figure 3 demonstrates the trends in pasture area and stocking rates over the last 24 years in a group of farmers in the sheep/wheat zone at Gulargambone. This data indicates the close relationship between stocking rate and improved pasture areas. As stocking rate is a key determining factor in gross margin and profit per hectare, it has been shown that low levels of pasture improvement also reflect low profits from the grazing enterprise.

It is of importance to note that the levels of improved pasture have never increased above 17-18% of the total farm area. The strong relationship between improved pastures, stocking rates, gross margins and profits per hectare mean that significant potential profits have been foregone through the lack of adequate pasture improvement. This does not include the impact of improved pastures on establishing disease breaks and reducing fertiliser inputs into subsequent crops.

Pastures in this area are largely limited to lucerne and barrel medic which on the better farms is undersown with the fourth crop and lasts some 4-5 years after which paddocks go back into the cropping rotations. These pasture areas were dramatically reduced by the lucerne aphid attack, and it took a considerable number of years to re-establish them. The pressure of reasonable profitability of wheat and the response to try and grow more wheat to reduce negative cash flows also reduced the pasture area. As the financial squeeze got worse in agriculture, the reaction of the more desperate farmers was to move from 30% crop 70% pasture into 100% crop. Fence to fence cropping occurred in the hope of a boom year and enough funds to get out of debt. This strategy was adopted in the sheep-wheat zone while the

cropping machinery lasted.

Australia has continued to produce wheat at less than the cost of production for at least the last 6 years. This has been achieved by:

- mining the soils (not replacing nutrients, neglecting soil structure and degradation);
- mining the machinery, (not replacing it and completely wearing it out and letting the improvements fall to pieces) and;
- mining the family labour who are underpaid and in many cases over worked and ill rewarded for all their efforts, but trapped into trying to preserve the family capital through desperate measures.

The worst end of the cycle is where people have given up trying to pay interest to the bank. The machinery has come to the end of its productive life and the property is reverting to weeds and natural pasture. Merino wethers are run on the property as the enterprise of minimum cost. Many other people who are less in debt have been able to make a conscious decision to reduce the costly negative gross margin of the wheat enterprise by sowing pasture where possible. Costs are cut and wherever possible the farm reverts to a low-cost pasture/animal enterprise. A small part of the inspirations for doing this has been the realisation of the damage done in terms of soil degradation and the need to preserve the soil and maintain the long-term productive potential of the family farm.

PROFIT ANALYSIS

Analysis of the profitability of crop and livestock enterprises shown in Table 1 and Figure 4 indicate the potential for low cost pasture/animal production with minimal cropping and good use of rotations as a sustainable long-term combination of enterprises.

Figure 4 shows actual operating returns from a group of mixed farmers in the wheat/sheep zone of NSW. The maximum returns from leaders in this farming group illustrate

OPERATING RETURN TO ASSETS

GRAS Long Term Averages

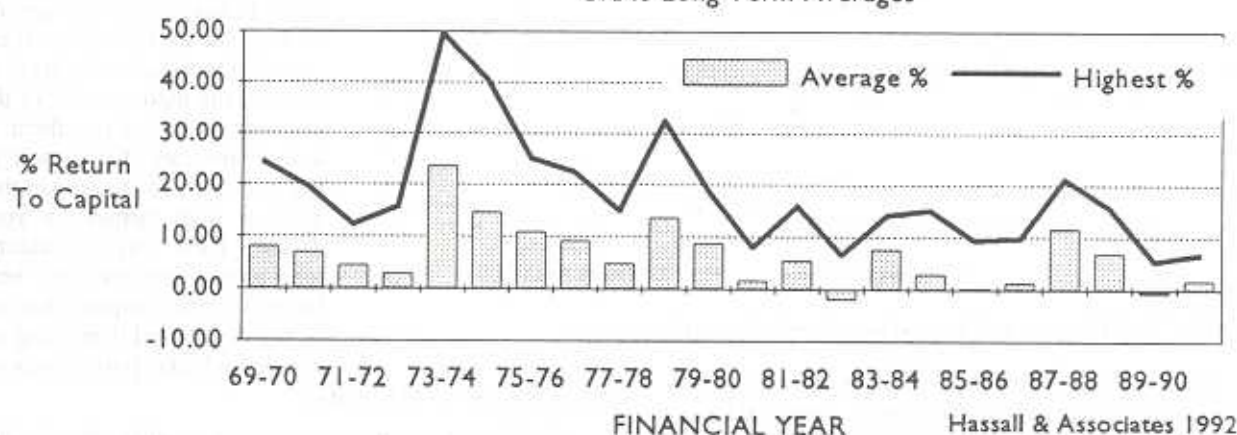


Figure 4: Operating returns to assets of a group of farmers in the wheat/sheep zone of NSW.

Table 1: Gross margin comparisons of grazing enterprises.

Enterprise	Gross margin			Return on livestock capital (%)
	DSE/ha	\$/DSE	\$/ha	
Merino ewes (22 micron)	3.54	13.32	47.17	59.96
Beef cattle	3.25	11.49	37.35	27.98
2nd cross lambs (28 micron)	3.01	9.69	29.15	76.79
1st cross ewes	3.19	9.37	29.85	74.28
Merino wether (22 micron)	4.30	7.88	33.88	48.16
Crop fattened steers	20.00	7.38	147.66	6.74
Beef cattle feedlot	-	-	-24.75	-5.66

the potential returns from Agriculture. As these efficient producers buy out the neighbour, the efficiency of the agricultural production in Australia will also increase.

In many years, the most efficient producers have been able to double the return on their investment compared to the average farmer, who has eroded the value of their asset base by not keeping pace with inflation.

TREND TO LOW COST, SUSTAINABLE AGRICULTURE

This movement is based on the use of long-term perennial pastures based around phalaris and lucerne. The major ingredients in the success of this system are:

1. The importance of successful establishment techniques given the cost of the pasture, seed, spray and fertiliser;
2. The success of renovation and reseeding to improve pasture density;
3. A low requirement for fertiliser on an annual basis;
4. The maintenance of a grass/legume balance that adds nitrogen to the soil; and,
5. The importance of grazing management and the necessity to investigate new techniques to maintain the long life of the pasture and the health of the soils.

For the system to work, farmers need improvements (eg.

water, fences and sheds) which are easy to maintain. A low machinery inventory is another essential ingredient of the successful pasture livestock farmer who can run very large numbers of stock with an old ute, two good sheep dogs, a jetting plant and a pair of wire strainers. Many farmers feel they were trapped into a very high cost machinery inventory during the wheat boom and high leasing costs have ultimately brought many unstuck.

A simple livestock system which is efficient and productive is essential to convert the top quality pasture. Cattle breeding is the lowest labour intensive enterprise that can be selected and when efficiently run can give reasonably good gross margins, but poor returns on capital.

A set of gross margins of all the enterprise choices are set out in Table 1. However, before selecting the optimum enterprise, one needs to then look a bit deeper into the management requirements and ability of the owners.

ANIMAL MANAGEMENT

Good animal management must be coupled with well-managed, quality pastures to achieve sustained profitability. This will revolve around matching available feed supply with livestock demands. Figure 5 demonstrates the use that can be made of good research knowledge and a little computer technology.

Appropriate animal breeding cycle and the weights of the females at critical periods are the next most important ingredients in livestock management. Preventive medicine minimise disease problem is also important, while the preparation of the product and special marketing efforts must now be included in all management plans. It would be hard to over-emphasise the increased profits that individual farmers get from what an outsider would consider minimal additional effort into marketing their product properly.

FINANCIAL MANAGEMENT

Financial management is the easiest ingredient to put in

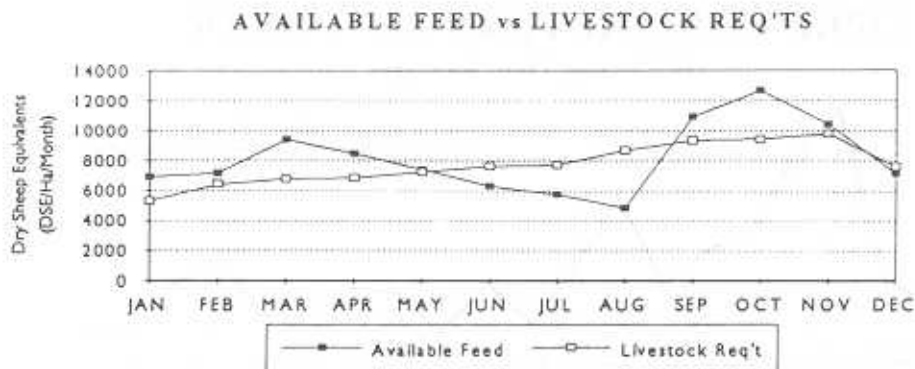


Figure 5: Matching available feed and livestock requirements.

place, but has often been neglected. Current estimates suggest that only 38% of farmers prepare an annual budget and plan ahead. A pencil and a University of New England Cashbook can be acquired for \$12.00 a year and provide the essential ingredients of careful recording, annual review, cash-flow update and forward planning. Everything from

prices and the cost of finance.

Good financial management can readily identify the costs and benefits of improved pasture and animal management. This provides invaluable information to allow further efficiencies in production to be achieved.

then on becomes more sophisticated and is not necessarily that expensive. Obtain some good farm management advice on how to set up the farm office, record financial and physical data for the management of the property and then use them in annual reviews, firstly self to self and then in a comparative analysis with farmers in your district. Then start formulating long-term plans and five year budgets on the computer that can be rapidly altered depending on new knowledge, particularly on