sheep connect south australia

Managing Risk

Information Sheet

Benefit of Sheep/Wool in a mixed farming system - Information Sheet 2 (of 3)

Connecting people in the business of sheep

Introduction

Australian farmers operate in an environment which is many times more variable than that of their competitors in the developed world (Keogh, 2013). However, very few farmers undertake risk analysis before making a decision and tend to rely on their experience to inform the riskiness of an option (Nicholson, 2013)

They know prices, yields and some costs can be highly variable but also know that some commodities and production systems are more variable than others. In most circumstances sheep will grow wool even in a poor season and there will be some value in livestock even in poor condition. However a crop may fail completely.

Analysis of more than 40 mixed farming businesses conducted through the Grain and Graze program and detailed price analysis leads to the following conclusions:

- Livestock are generally less risky than cropping. They reduce the possibility of making large losses, however having livestock also reduces the chances of making large gains. There is this risk return trade off. Businesses that choose to remove livestock are generally running a higher risk but potentially, higher reward business.
- Most major crop prices (wheat, barley, canola) are strongly correlated with each other ($r>0.75$) but not with livestock (if anything they are weakly negatively correlated). This means low grain prices does not necessarily mean low livestock prices.
- Major animal products (sheep meat, beef, wool) are very weakly correlated ($r<0.3$), which means there is price diversification within livestock types.
- Everyone has a preferred risk position that can change over time. The right level of risk for one business might be different for the next and will change over time so be prepared to recalculate the level of risk (Nicholson, 2017).

Price correlations between any two commodities can easily be generated using the Grain and Graze Agprice guide (http://agprice.grainandgraze3.com.au/).

It has been found that more profitable livestock businesses actively manage risk by

- identifying key enterprise risks and then actively managing these risks to mitigate them where possible.
- understanding and analysing the risk profile of different business growth strategies and rarely pursue high risk growth strategies.
- actively managing commodity price risk and
- timely and regular business monitoring.

Given stocking rate is a key profit driver in the livestock enterprise, it is important that the risks are minimised to allow stocking rates to be optimised given whatever the season.

Managing Seasonal Variation

Normal seasonal variation can deliver a range of scenarios including late or poor breaks, failed springs, and a mix of these. These scenarios need to be managed to minimize their negative effects. For livestock businesses it is important to have a well-developed “exit” strategy.

Drought years need an extra level of planning and decision making at the whole farm business level.

Exit strategies need to be developed for all the possible scenarios. It is important that identified tactics need to be actioned. Accepting the outcome of the decision (whatever that may be) is important. Waiting and not taking action, more often than not will have a negative impact on the enterprise.

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An exit strategy for a late or poor break to the season should:

1. Determine potential stocking rate for a range of seasons (Table 1 & 2)
2. List the available tactics to be used (Table 3)
3. List when the tactics will be employed
4. List the action required and who will do it
5. List when it has to be completed by
6. Every year follow the list and review and revise it as necessary.

There are a range of tactics (see Table 3) that can be used to manage a late or poor break to the season that maintain carrying capacity and/or reduce feed demand.

Table 1: Impact of time of opening rains on livestock carrying capacity

Break of season (Date)	Potential Stocking Rate (DSE/winter grazed ha)	Planned Stocking Rate (DSE/winter grazed ha)
1 May	11	8
7 May	10	8
14 May	9	8
21 May	8	8
28 May	7	8
4 June	6	8
11 June	5	8
18 June	4	8

Failed Spring

A failed spring does not happen over-night but slowly develops over weeks or even months. To ensure you are in a position to act early it is necessary to monitor rainfall and stored soil moisture over winter and into spring. The use of moisture probes could be of great benefit. Monitor long term rainfall forecasts (http://www.bom.gov.au/climate/outlooks/#/overview/summary) as these are generally more accurate in late winter and early spring.

In seasons where winter rainfall is below average, stored soil moisture coming into spring will be low and pastures will struggle to grow rapidly as temperatures begin to increase.

Soil moisture monitoring has been used in the cropping industry for a number of years and it is now beginning to be used in the grazing industry to support of tactical decisions, such as selling or buying livestock early, purchasing supplementary feed or applying addition fertiliser. This is based on current soil moisture levels, understanding of climate drivers and incorporation of seasonal forecast probabilities.

Early signals from the moisture probes of soil moisture conditions can provide indications of pasture production because half the spring production is based on soil moisture, with the other half coming from rainfall. Fortunately, knowledge of both of these has improved in recent years. There are a number of soil moisture monitoring networks (www.naturalresources.sa.gov.au/samurraydarlingbasin/land-and-farming/tools-for-land-managers/soil-moisture-monitoring-network) and individual moisture monitoring probes, which have been established.

Table 2: Impact of dry winter/spring on livestock carrying capacity

(Date)	Plant available water (PAW) mm	Climate outlook Chance of above median	Potential Stocking Rate (DSE/winter grazed ha)	Planned Stocking Rate (DSE/winter grazed ha)
1 Aug	Moderate	< 40% Aug-Oct	11	8
7 Aug	Low to moderate	< 40% Aug-Oct	10	8
14 Aug	Low	< 40% Aug-Oct	9	8
21 Aug	Low	< 40% Aug-Oct	8	8
28 Aug	Low	< 40% Sept	7	8
4 Sept	Low		6	8
11 Sept	Low		5	8
18 Sept	Low		4	8

Develop tactics for these seasons:

1. Bring forward the sale of sheep - such as cast-for-age ewes or surplus young sheep
2. Establish a containment area to preserve the soil-pasture resource
3. Early weaning- lambs can be weaned at 8 to 10 weeks of age with access to high quality feed
4. Purchase extra feed early
5. Seek agistment early.

Refer to Table 3 for tactics to manage a dry winter/spring.

In developing a strategy for a failed spring, it is also important to consider the longer term implications on the enterprise over the following summer/autumn. With a poor spring the quantity of available paddock feed going into summer may be significantly reduced. How will you manage livestock feed requirements.

On the other hand a failed spring may have impacted on the cropping enterprise providing a potential feed source for the livestock enterprise.

Containment areas can assist with maintain or increasing carrying capacity
(Source: Barossa Improved Grazing Group)

Table 3: Tactics to manage livestock with a late or poor break to the season

Tactic	Outcome
That maintain or increase carrying capacity	
Increase supplementary feeding	Maintain stock condition- sustain flock production, reproduction and sale value
Purchase extra feed early	Obtain feed at a reasonable price and ensure sufficient feed available
Reduced crop- increase pasture	Reduced winter stocking rate but less stubble area to graze in summer / early autumn
Put stock in containment areas	Preserve ground cover, protect top soils, defer graze pastures to increase leaf area and growth
Apply nitrogen fertiliser to pastures	Increase early growth and vigour of grasses
Growth promotants on pastures (Gibberellic Acid)	Increase winter and spring pasture growth
Control pasture insects	Increase winter and spring pasture growth
Graze crops	Defer graze pastures, reduce supplementary feeding
Strip grazing	Increase winter and spring pasture growth
Rotational grazing	Increase winter and spring pasture growth
Early weaning	Maintain ewe condition to reduce the chance of carry over effects to next joining
That reduce feed demand	
Pregnancy scan and sell dry stock and culls	Reduce stocking rate, maintain core breeders
Agistment off-farm	Reduce stocking rate at home but maintain flock size for when the season breaks
Early stock sales	Ensures surplus sheep don't consume summer feed reserves- leaving more for core flock

References

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