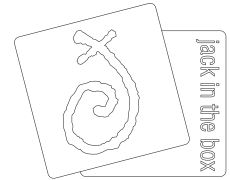




Analysis of sheep stocking rates in the Avon Region

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the executive summary

:: department of agriculture and food ::

the executive summary

The Department of Agriculture and Food has proposed that improving pasture management will deliver the greatest gains on mixed farms in the Avon Region. In advancing this idea, the Grain and Graze Program intends to focus on processes which increase production levels by increasing the numbers and density of sheep.

Before committing significant resources to this focus, the Department commissioned Jack in the box to investigate barriers and drivers of change in increasing stocking rates in the Avon.

Specific areas of investigation were to:

- Understand the reasons why stocking rate are at their current level.
- Determine the barriers to increasing stocking rate?
- Identify the order of importance of the reasons.
- Discover what would enable farmers to increase stocking rate?

Focus groups and personal interviews were conducted across the Avon region acknowledging the different rainfall and seasonal conditions.

Feed and the price received for sheep products were clearly highlighted to be key barriers to increasing stocking rates. The perceived amount of work required to run sheep and the associated current labour issues are also of concern.

Importantly, stocking rates also appear to be strongly related to the degree of risk that farmers are willing to bare. An example of this was that farmers consistently expressed that they did not like to see sheep suffer and acknowledged that they were understocked in previous seasons. However, those that had considered risk management strategies were more willing to optimise their stocking rates.

In moving this project forward a number of recommendations are provided:

- Develop more information and events focused on optimising sheep enterprises. The existence of these extension initiatives will act to reinforce the opportunities from sheep and also highlight the intricacies of sheep management. However, in designing these it is important to acknowledge that individual farmers issues vary. Hence, rather than developing initiatives which focus on a variety of topics it would be more effective to concentrate on discrete topic area (i.e. labour, risk management, pasture management). This would also allow for shorter extension events/days which would in turn attract more farmers in these busy times.
- Consider developing a partnership with the 'On the Sheep's Back' initiative to fast-track its adoption and delivery.
- Investigate current technology available to assist in managing sheep and promote the options to farmers in acknowledgment of perceptions regarding sheep being 'hard work'.

- Package sheep benchmarking materials and financial data and develop a communications delivery mechanism to maximise farmers' exposure. Importantly, this information should be developed from current farm situations as opposed to financial model to maximise its credibility, reflecting which farmers are actually achieving in various districts.
- Examine the realities regarding the potential for a shortage of shearers in the medium to long term. If found to be significant, identify key stakeholders and develop a plan to address this issue. Key strategies may include sourcing and training people from overseas and strategies to foster the attractiveness of this occupation.
- Examine cost effective feed options in acknowledgement of the current emphasis on tight cropping rotations and the reluctance to introduce ley pastures. This needs to be more than simply promoting new pasture varieties, due to their high entry costs. Options utilising common pasture/crop varieties should be the priority.

:: end section ::



the background

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the background

In the Avon region, cropping has been a priority in farming systems with research and extension efforts being well resourced, leading to the development of highly productive systems. Conversely, pastures have largely been ignored with little management focus or additional inputs (e.g. nutrition).

Through their investigations, the Department of Agriculture and Food has concluded that improving pastures management is where the greatest gains will be made on mixed farms in the Avon Region.

The current system uses annuals in short (usually year in year out) rotations. There are opportunities to explore their improvement, increasing production and quality of pastures, to increase sheep gross margins. This will have flow on effects to the cropping system. However, in order to achieve these changes different strategic management practices are required.

The Grain and Graze Program will focus on processes by which it can increase production levels by increasing the numbers and the density of sheep. This can be achieved by either increasing stocking rates or decreasing the area required for sheep production and thus providing more area for crop production. Improved pastures will also lead to better management of weeds, disease and fertiliser, which are at increasing risk to the cropping system.

Before forging ahead on the project, based on conclusions and assumptions to date, the Department commissioned Jack in the box to investigate barriers and drivers of change in increasing stocking rates in the Avon.

Specific areas of investigation were to:

- Understand the reasons why stocking rate is at the current level.
- What are the barriers to increasing stocking rate?
- The order of importance of the reasons.
- What would enable farmers to increase stocking rate?

: : end section : :

the methodology

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the methodology

Approach

In considering the requirements of the project, Jack in the box undertook to design and conduct a series of focus groups with farmers from mixed enterprises, within the Avon boundaries.

A key area of consideration was the need to determine clear criteria in targeting participants. The ideal scenario in developing effective focus groups is to maintain relative homogeneity within groups while ensuring heterogeneity between groups.

Through discussion with the Department, it was agreed that rainfall and the nature of a typical season would be an important factor in achieving the desired scenario. On the basis of this decision, focus groups were conducted in a range of locations to ensure the research covered low, medium and high rainfall zones within the Avon boundaries.

These locations were as follows:

- Northam/York - high/medium rainfall.
- Narrogin - high/medium rainfall.
- Kulin - medium/low rainfall.
- Kellerberrin - medium/low rainfall.

In selecting these districts it was considered that the medium rainfall zone would be of particular interest because this area was believed to have most potential to be impacted. Higher rainfall zones have traditionally supported higher stocking rates and hence any change would not be as significant.

Through discussions it was determined that two focus group sessions should be run at Kellerberrin. This aimed to allow the introduction of a further qualifying parameter by separating those who had increased, maintained or decreased their stocking numbers over the last 5 to 10 years.

Selecting Participants

Jack in the box targeted between 8 and 10 participants for each focus group. In sourcing these, names were selected at random from local telephone directories with people being personally contacted. A script was developed to assist this process and ensure that a consistent message was developed in recruiting participants.

Participation Levels

A list of between 10 and 12 participants was generated for each focus group. The only area in which recruitment was found to be an issue was in regard to prospecting for Kellerberrin farmers who had decreased their sheep numbers. Only one farmer was identified, and they had been out of sheep for some 15 years.

Despite the number of farmers who indicated that they would attend the focus group sessions in some cases there was a relatively low response rate. Farmers were generally contacted only within a couple of days of running the focus groups so initially it was assumed that they would follow through.

After a poor response in the first instance, a fax was sent to participants with follow-up calls made just prior to the remaining focus groups being conducted. This acted to lift numbers but many farmers were not able to be contacted, perhaps reflecting the busy nature at this time of the year.

Upon completion of the focus groups, Jack in the box addressed any low response rates, by conducting personal interviews on the phone and face to face.

Question Design

Guide questions were developed to ensure the delivery of effective focus groups. In designing these, the topic area was well considered to ensure that all relevant parameters were discussed.

Key areas that were covered included behavioural beliefs, control beliefs and normative beliefs, due to their potential relationship with intended behaviour. These elements were drawn from the Theory of Planned Behaviour, a psychological model of behaviour change proposed by Icek Aizen. In this case the behaviour in question related to increasing stocking rates.

The questions were designed to be relatively factual at the start of the focus group with more complicated/deeper meaning questions introduced in a progressive fashion. Importantly, these questions acted to guide discussion and did not form the basis of all discussion. The success of focus groups lies in their capacity to travel into a variety of areas, for deep exploration, allowing for unforeseen but important considerations to be raised.

As the research progressed participants responses often raised new questions which needed to be explored. These were included for discussion in subsequent focus groups and interviews, hence the guide questions also evolved over time. The initial guide questions are provided in the appendices.

:: end section ::



the summary of results

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the summary of results

The following is summary outline of the results. For complete and detailed results see the attached 'result sections'.

Narrogin

Livestock changes over the last 10 years.

- Farmers appear to be generally increasing sheep numbers however some have dramatically reduced their emphasis on sheep.
- There has been a focus on increasing stocking rates.
- Fat lambs have become popular.
- Farmers are generally running fewer wethers.
- Continuous cropping and continuous pasture systems have been adopted.

Key drivers of these changes

- Low wool prices have driven declines in sheep numbers for some and increased focus on fat lambs for others.
- Cropping returns are generally perceived to be higher but there is acknowledgment that the higher input costs require good yields to make it profitable.
- Some recognise more opportunities from sheep than cropping.
- Lifting stocking rates through new pasture species and operating independent pasture and cropping systems.
- The markets are highlighted as important drivers of change.
- The availability of water to the east of Narrogin has impacted on farmers moving out and then back in to sheep.

Maximising farm profit over the next 5 years.

- Some will focus on refinement with no significant changes over the next 5 years.
- There will be a focus on increasing crop yields and rationalising inputs.
- Markets will play a role in defining the focus for the next 5 years.
- Farmers will look to continuing to increase the size of their properties.
- Export hay highlighted as an area with opportunities.

Livestock focus over the next 5 years.

- Increased focus on pastures, changing their practices to foster improved pasture growth.
- Purpose bred ewes were suggested as an important strategy into the future.
- Stocking rates were acknowledged to be important.

Sourcing information and advice on sheep management.

- Generally do not pay for advice on sheep management.
- Some utilise data on what other people are doing, through their farm advisor.
- Stock agents and the internet were highlighted as information sources.
- Press articles and mail received from the Department and MLA highlighted also highlighted as information sources.
- Sheep's Back Course and Lamb Max Program were raised as useful information sources.

Training – sheep versus cropping

- People generally have a strong emphasis on attending cropping events.
- Not many sheep days are perceived to be run at the moment, being driven by supply and demand.

Role of sheep in the farm enterprise

- Play an important role in terms of risk management.
- Deliver an income from areas that are unsuitable for cropping.
- Have a role in the pasture phase of the cropping system.

Determinants of stocking rates.

- Pasture levels were highlighted to be important. These tended to be linked to fertiliser input and challenges in fitting sheep around the cropping program (cropping earlier and pasture establishment issues).
- Profitability, time and attitudes to sheep were also indicated to be important issues.
- The risks associated with seasonal variation were also important, as farmers do not like to see sheep suffer.
- Rainfall was not commonly viewed as an issue.
- Past droughts encourage some farmers to set conservative stocking rates.

Changes required in encouraging an increase in stocking rates

- Suggested that farmers need to move out of operating in the 1940's, with cultural change being required to foster this shift.
- The time of lambing and a dedication to long term pastures would need to be examined.

Impacts of increasing stocking rates

- Infrastructure will be an issue for continuous croppers but not for those who already have sheep.
- Will require more time to manage their sheep, with labour being highlighted as an important issue for some.

Comments in regard to the next generation.

- Younger farmers are attracted by machinery but do not enjoy working with sheep.
- Believe that there is a general lack of knowledge amongst the younger generation in regard to sheep.
- Suggested that younger farmers need to look longer term.

Comments on the project

- Sheep management was highlighted as an important issue.
- Suggested that the Department does not need to employ people who know about livestock, they need to employ people who know how to change attitudes (changing management practices).
- Raised that it will be a matter of how farmers can use sheep in their enterprise, acknowledging their attitudes to sheep and individual situation.
- Profitability needs to be demonstrated.
- Shearing availability and costs are going to be an issue.
- The growth in the size of properties was highlighted to be an issue in regard to having the time to manage more sheep.
- Suggested that the Department needs to look at the wool markets with a lot of taxes placed on wool.
- Debated that feed was a key issue, stating that paddocks can be organised to manage feed, with price highlighted to be more important.
- The simplicity/ease of the farming system will be important for some.
- Viewed the project to have a high level of similarity with the Sheep's Back Program.
- Some concern about the effect of increasing sheep numbers on price.

Other relevant comments

- The maintenance of the live sheep trade was highlighted as a key issue.
- Farmers perceive that they have limited control over price.
- Suggested that there are limited shearers available due to low sheep numbers.
- Lifestyle was raised as a factor, with people not wanting to work hard anymore.

- Proposed that showing farmers figures will not be enough because they are readily available.
- Commented that cropping will continue to be an important focus because some farmers have invested a lot of money in machinery.

Northam/York

Livestock changes over the last 10 years.

- Pasture levels have declined.
- Increased health issues with sheep (i.e. lice and worms)
- Moved away from Merino's and shifting to prime lambs and exotic breeds.
- Labour has become an issue, particularly sourcing quality shearers.
- Some renewed interest in sheep.

Key drivers of these changes

- Time demands and cost cutting is impacting on sheep health.
- Removal of fences to create larger paddocks for cropping is seen to be contributing to sheep health issues through cross boundary contamination.
- Tighter cropping rotations and increased used of chemicals has lead to decreased pasture levels.
- Low wool prices are fostering a shift to sheep meat.
- Increased cropping costs and issues with frost and stripe rust are encouraging some to focus on their sheep.

Maximising farm profit over the next 5 years.

- There is a realisation that you have to focus on making the most of every acre.
- Continuing to optimise their cropping program.
- Cost cutting the cropping program (fertiliser, chemicals) is an option but is not considered to be sustainable.

Livestock focus over the next 5 years.

- Cutting sheep numbers back, selling wethers.
- Focusing on maximising prime lamb production.
- Scanning more sheep.
- Cattle levels being maintained.

Sourcing information and advice on sheep management.

- Tend to rely on their instincts and experience.
- Don't talk to agronomists about their sheep management.
- Farm advisers tend to more cropping orientated.
- Agents are perceived to have a vested interest.
- The Department is perceived poorly in terms of new and useful advice.

Role of sheep in the farm enterprise

- Provide cash flow and weed management.
- Deliver a return from land that can't be put into crop.

Determinants of current stocking rates.

- Feed is viewed as a key limiting factor and is seen to relate strongly to rainfall.
- Availability of sheep was suggested as an issue.
- Time and effort that they wish to invest in sheep was another factor.

Changes required to encourage an increase in stocking rates

- Need to receive a better price for their products as they currently require all year round cash flow from their cropping.
- Require new and valuable information.
- New pasture varieties are required (links to feed issue).
- Fertiliser prices would need to go down.

Impacts of increasing stocking rates

- Depends on their current situation, will cost time and money in another area.
- No infrastructure issues as they are already set up for sheep.
- Will require more time to manage, with the impact of this being dependent on labour accessibility.

Comments on the project

- There is a danger that the Department will be seen to be reinventing the wheel, since a focus on increasing stocking rates is not new.
- Suggested that the Department should focus on education to lift the perceived value of farm products, fostering higher returns.
- Farming is viewed as so competitive now that farmers are constantly searching for new information, with the industry driving itself.

- Perceived that new pastures will be developed commercially if there is there is demand for them.
- Suggested that the Department may create a bigger gap between themselves and the farmer by placing increased pressure on them to increase productivity when no one is helping them sell their produce.
- Making sheep work enjoyable was highlighted as an important consideration.
- Labour is viewed as an important issue but shearers will still travel to shear a good sheep.

Other relevant comments

- Cattle are clearly a profitable alternative to sheep in the district.
- The advantages of cattle were provided to be that there is no crutching or shearing, however it was acknowledged that people can not handle them on their own.
- Lot feeding appears to be relatively common in the district.
- The credibility of the Department was questioned due to its perceived demise over the last 10 years and increased role of private companies in regard to research.
- Continuous croppers in the area are facing root disease issues but it was suggested that would still continue if they shifted to sheep and ran pure broadleaf pasture rotations for a couple of years.
- Some concern raised in regard to meat and wool prices if people do move back into sheep.
- An abattoir is proposed for York.

Kulin

Livestock changes over the last 10 years.

- Farmers moving into exotic breeds and prime lambs, and away from Merino's.
- Farmers buying in sheep and no longer breeding Merino's.
- Some variation in sheep numbers.
- Pasture decline.

Key drivers of these changes

- Availability and cost of shearing has had an impact.
- Fluctuations in feed levels (rainfall) have impacted on sheep numbers.
- Money is being invested elsewhere (i.e. machinery).
- Increased focus on cropping has led to less inputs and time in managing pastures.
- Perception that you can always quit meat sheep but where as this is not always the case with Merino's.

Maximising farm profit over the next 5 years.

- Continuing to optimise their cropping programs despite concern regarding the impact on their farms (i.e. resistance issues).
- Examining opportunities to embrace more technology.
- Expansion is being considered.
- Investing off the farm was raised as a key area.

Livestock focus over the next 5 years.

- Meat sheep are viewed as a profitable enterprise.
- Improving lambing percentages and pasture production.
- Preg testing.
- The focus on pasture production is limited by the returns from sheep.
- Lambing all year round suggested to overcome feed and time issues.

Sourcing information and advice on sheep management.

- Receive newsletters from farm advisory groups.
- Utilise farm advisors benchmarking and budget information.
- Also, rely on past experience and knowledge passed on from previous generations.
- Stock agents, MLA and the Department provided as information sources.

Role of sheep in the farm enterprise

- Suggested that if farms are higher than 50% cropping then they are only really using sheep for weed management.

Determinants of current stocking rates.

- Rainfall, seasonal conditions and feed are viewed as key limitations.
- Availability of sheep also suggested as an issue.
- Price of sheep is also a consideration.
- Concerns about seasonal risks appear to drive stocking rate decisions.
- How much effort they want to put into sheep (i.e. whether they lot feed)
- Labour availability also impacts on stocking levels.

Changes required to encourage an increase in stocking rates

- Need more dry fodder for summer (pellets being investigated).
- The price of sheep was most commonly highlighted as a key barrier to increasing stocking rates.

Impacts of increasing stocking rates

- The impact on time depends on the level of increase and whether or not you use contractors.
- Labour is an important issue.
- No impact on impact on infrastructure requirements.

Comments in regard to the next generation.

- Young farmers perceived to not have experience with sheep.

Training – sheep versus cropping

- Perceived that sheep events are rarely conducted these days.

Perceptions of sheep versus cropping.

- Highlighted that there is more physical work involved with sheep and people are increasingly finding this less appealing.
- Perceptions of time taken for cropping versus sheep varies.
- Difficult to source people (labour) that are interested in sheep.

Comments on the project

- Indicated a demand for pasture species for year in year out rotations.
- Suggested that higher lambing percentages will be important.
- Considered that if farmers are not already in sheep then the Department would be wasting their time, since they would be in poor condition.
- Need to make farmers aware of what is achievable (benchmarks).
- The lack of shearers highlighted as a key issue.
- Suggest looking at things to make sheep easier work (good ramps, yards, fences...).
- A key challenge was raised to be overcoming farmers ego's in regard to spending money on machinery.
- A shift to a long term focus is required.

Other relevant comments

- Suggested that those people who went 100% cropping in the Kulin area are no longer operating.

Kellerberrin

Livestock changes over the last 10 years.

- Limit labour available to handle sheep.
- There has generally been a decline in the numbers of sheep on farms but some are renewing their focus on sheep.
- No sale yards within the proximity of Kellerberrin.
- Increased stocking rates.

Key drivers of these changes

- Profitability of cropping has encouraged a general decline in sheep numbers.
- The availability of labour has also impacted on sheep numbers to some extent with less people trying to do more work on bigger properties.
- Stocking rates have increased because there are fewer acres to run sheep with farmers utilising more of their farms to grow crops.
- Some renewed focus on sheep due to increased input costs from cropping and the associated risks.

Maximising farm profit over the next 5 years.

- Cost costing raised but there is uncertainty about been able to achieve this.

Factor limiting sheep production.

- Proposed that it is a lot of work to give sheep the TLC required because they don't have green feed for as long as other areas do.
- Length of the season is highly variable.
- Lambing percentage was indicated to be important.
- Degree of risk farmers are willing to take.
- Feed and rainfall relationships raised as an issue.

Sourcing information and advice on sheep management.

- Tend to rely on personal experience.
- The 'On the Sheep's Back' course was mentioned.
- Agmemo was highlighted but it was suggested that it never contained any new information.
- Agronomists are advising farmers to have more sheep and grow less legumes.

Those supporting increased stocking rates.

- Agronomists advising to increase stocking rates.
- Commonly indicted that there are not listening to their agronomists, since they either at required stocking rates or do not wish to put themselves under more pressure.
- Role of agronomist was suggested to be someone who they can bounce ideas off.
- Noted that their agronomists can be conservative at times.

Role of sheep in the farm enterprise

- Pasture phase enables the current farming system to be sustainable.
- Provide a level of risk management.

Determinants of current stocking rates.

- Stocking rates are generally determined through personal experience.
- Feed was highlighted as a key barrier.
- Conflicts between the cropping program and pasture growth.

Pasture management.

- Some continuing to top dress while others have abandoned pastures.

Changes required to encourage an increase in stocking rates

- An increase in the profitability of sheep appeared to be a key factor.
- Better sheep management.

Impacts of increasing stocking rates

- No impact on infrastructure for those that already have sheep.
- The impact on time depends on the relative numbers of sheep being increased.

Comments in regard to the next generation.

- Proposed that increased profits will encourage the next generation to have more interest in sheep.
- Older generation are prepared to stay on the farm through thick and thin for the lifestyle but younger generation are not like that.

Training – sheep versus cropping

- More frequently attend cropping days, since cropping is viewed to be more complicated.
- Perceived that people are not currently pushing sheep days and tend to be saying the same things they did 10 years ago.

Perceptions of sheep versus cropping.

- Breeding is very slow compared to getting a welder out to make new machinery.
- Commonly considered that sheep are hard work.
- The money in wheat has driven the technology changes.

Comments on the project

- Indicated that this is nothing new with the Sheep's Back Course having been run for last two years.
- Concern that there is very limited option available to lift sheep production.
- Suggested that farmers can make money out of sheep if they want to but for many it is too much hard work.
- Feed and economics highlighted as key drivers of stocking rates.
- Need for new pastures highlighted (hard seeded species), however the cost of new species was a concern.
- Proposed that the Department will only have an impact on country which produces less than 1.5 tonnes of wheat.
- Suggested a need to streamline sheep management practices (i.e. drenching etc) to reduce the work load.
- Need to look at options in regard to cheap feed for sheep (i.e. trashing in a legume with oats).
- Those that are interested in their sheep and want to drive their system will find out regardless of the project.

Other comments

- Suggested that specialised sheep farmers will develop, agisting sheep on other farmer's properties.
- Some moving away from sheep for perceived lifestyle advantages, since farmers see that they do not get a break from a mixed enterprise.

Relevant comments from a continuous cropper

- Were not making money out of sheep and were losing yield particularly on the heavier country.
- Thought that they would have more time on their hands but this has been consumed by the cropping program.
- Like cropping and are enjoying what they are doing.
- A friend of theirs has moved back into sheep due to weed issues and they are watching this with interest.
- Invests money of farm for risk management.
- Water supply would be a significant issue if they moved back into sheep.
- A lot of farmers will not be better off from continuous cropping because they have spent a lot of money on machinery.
- Gets more personal satisfaction from seeing a 4 tonne wheat crop than seeing a mob of sheep.
- Cost a labour is a significant issue if there were to move back into sheep.

:: end section ::

the discussion

: : department of agriculture and food : :

the discussion

Farming System and Stocking Rates

Over the last 10 years there has clearly been an increased emphasis on cropping in the farming system in the Avon. The key driver of this appears to be the combined effect of declining prices for wool and good returns from grain crops.

In response to this, those with a passion for sheep looked to optimise their sheep enterprise through a shift to meat sheep or a renewed focus on producing fine wool. In many cases sheep numbers also declined with an increased emphasis on cropping programs. Closer rotations and larger cropping areas reduced pasture levels and carrying capacities, while the time available for sheep was also compromised.

For those with a passion for cropping, reduced wool prices were a blessing in disguise. At last, they could justify quitting their sheep and move into continuous cropping systems. Technological innovations also supported this shift with minimum disturbance system and tools enabling farmers to optimise their cropping and provide them with a weed management alternative to sheep.

Over time, many farmers invested in continuing to improve their cropping systems, garnering improved yields from new varieties, attention to soil health and chemical options and continued training and advice in overall cropping management. However, in recent times cropping enterprises have increasingly faced a cost-price squeeze with higher input costs and declining returns.

For some farmers, economies of scale was viewed as an effective strategy in combating this situation. Consequently, many farms have grown in size and machinery and infrastructure has been purchased and modified to facilitate larger scale cropping programs.

For others the solution was to focus on optimising every acre of their farm, pushing their natural resources to the limit and utilising benchmarking and other information sources to build more efficient and effective farming systems on their existing properties.

In these situations and on those farms that are expanding with labour available, there has been a renewed focus on sheep. This has also occurred as a consequence of the continued cost-price squeeze in combination with poor seasons for cropping, where frosts had a significant impact on some enterprises. In these seasons the importance of the risk management role that sheep play was highlighted.

Some farmers also appear to be moving back into sheep in order to save some input costs associated with their cropping enterprise (fertilisers and chemicals).

A key challenge outlined in regard to mixed farm enterprises is developing systems which optimises both the cropping and sheep enterprises. For example, with earlier seeding times it has become more difficult to build productive pastures because sheep are now being locked up in pasture paddocks earlier in the season.

In terms of sheep management it appears that many farmers are still managing their sheep in the same way as previous generations. It was proposed that this is limiting the profitability that these farmers can potentially garner from their sheep which in turn impact on stocking rates.

It was commonly discovered that farmers attend far more cropping events than sheep events. This is likely to reflect supply and demand, with farmers expressing that sheep are less complicated than crops, tending to rely on their own knowledge. As a consequence it is possible that farmers do not fully appreciate the intricacies of a sheep enterprise and so do not have systems which enable them to maximise their stocking rates.

It is useful to note that cattle are an appealing option in some areas. While this may not be directly impacting on stocking rates it will be impacting on sheep numbers on farms.

Social Factors and Stocking Rates

Labour

The availability of labour appears to be an important factor defining stocking rates. This relates not only to labour on farm but also contracted labour such as shearers.

It was expressed that over time farms have become larger but are being run with less labour units. On many farms there appears to be only one generation running the family farm, the older generation are moving into their retirement and people are generally having children later than previous generation. Although it wasn't raised, it is also possible that the children have been encouraged to seek employment off the farm to build experience before returning to work on the farm full time.

In increasing stocking rates it was commonly suggested that another labour unit would be required to manage and maintain the sheep. Labour is not only difficult to access but it is also expensive due to competing industries (i.e. mining).

In situations where the next generation does provide labour on the farm it appears that they are generally not interested in sheep, being more familiar and satisfied by the cropping enterprise. It was suggested that this is being driven by a preference for working with machinery as opposed to the physical work associated with sheep. However, these perceptions are yet to be tested with a high proportion of older generation farmers participating in this research.

It has also been suggested that the younger generation are sensitive to the opportunities that their peers in Perth enjoy and are increasingly attracted to the 'bright lights' of the capital city. Also, the farming lifestyle which was once valued by the previous generation is being challenged by increased materialism, shifting this generation's attention to more lucrative pursuits beyond the farm (i.e. mining).

In respect to shearing, many farmers are aware of the difficulty in accessing shearers and the associated increased costs. The degree to which this is impacting on stocking rates is still uncertain but it is important to be aware of. Particularly since, there does not appear to be many new shearers on the horizon. Attracting labour from overseas is an option but shearing will need to compete with other opportunities in Australia.

The consideration of labour and time on a farm is clearly a potent factor in relation to farming systems, with farmers perceiving significant lifestyle advantages from continuous cropping situations. It was raised that in a mixed enterprise, labour is required for most of the year. As one enterprise finishes the other one starts. For example, continuous croppers can go on holiday after harvest while those with a mixed farm enterprise need to focus their attention back onto their sheep.

Independence

Another area of interest in considering social factors and stocking rates is that farmers tend to project themselves as highly independent business managers. Many do not appear to have anyone providing advice on their sheep enterprise, relying instead on past experience and knowledge handed down through previous generations.

In instances where farmers do have farm advisors commenting on their sheep, they appear to listen to them with one ear open, on the basis that they know what their farm is capable of, better than anybody else. It was also raised that advisors can, at times be overly conservative in giving advice, since because they are aware of the farmer's financial situation.

As indicated previously, it appears that many farmers are operating their sheep enterprise the same way as previous generations. This is believed to be related to a reluctance to take risks and look outside the square at more effective practices. A cultural shift was prescribed to be required in addressing this.

Regional Infrastructure

It was outlined by one research participant that farmers are increasingly living in regional centres for family reasons (schooling, employment...) and travelling some distance to their farm on a daily basis. The degree to which this directly impacts on stocking rates is not clear but as previously suggested cropping is perceived to provide more flexibility in terms of time away from the farm.

Individuality

Personal goals, aspirations and desired standards of living are likely to be having an indirect impact on stocking rates. It was continually raised that increasing stocking rates would take more work, and farmers' willingness to 'work harder' is likely to be linked to their desired income.

In some cases it is clear that farmers have currently achieved a balance in which they are satisfied. They know that they could increase their stocking rates but have little desire to do so, due to its impact on their lifestyle. While, in other situations farmers are motivated to work harder in optimising all areas of their farm, including lifting stocking rates to their maximum, to maintain their current lifestyle.

Another consideration is that some farmers focus on the short term while others look much longer term. It was proposed that continuous cropping garners much higher returns than mixed enterprises, however mixed enterprises were more sustainable in the longer term. It follows then that in order to increase stocking rates, farmers need to be encouraged to look longer term.

The Nature of the Beast

It is clear that farmers do not like to see animals suffer. Consequently, many are likely to be conservative in their stocking rates, minimising the risk that feed will be in short supply.

Barriers To Increasing Stocking Rates

Price

It was commonly suggested that like most businesses, farming is price driven. There will be an increased focus on sheep if it can be justified by the price they will garner for their product. In the majority of instances this would equate to increased stocking rates.

Feed

Feed was indicated to be limited by rainfall and was consistently raised as a significant issue. A number of factors are likely to be impacting on these perceptions.

Current management practices such as time of lambing may not be optimising the feed that is available while limited attention to pasture management is likely to be limiting feed levels, irrespective of rainfall. A degree of risk aversion is also likely to be at play with conservative stocking rates being implemented due to the season variation and the potential for feed shortages.

Labour

As outlined previously, labour was highlighted as an issue in regard to increasing stocking rates due to the perceived increases in the time required to manage more stock. The degree to which this is an issue appears to relate to the family lifecycle stage and people's attitudes towards sheep. For example, where labour is available on farm and these people are interested in sheep labour does not appear to be an issue.

Risk Aversion

As indicated previously, many farmers appear to run conservative stocking rates due to the risk associated with feed availability. While the degree of risk aversion will vary between different people it does appear to be an important reality in regard to stocking rates.

Supply and Price

In a minority of instances the availability and price of sheep was raised to be an issue in increasing sheep numbers and stocking rates. In farming systems where sheep turnover is the primary focus, this is likely to be a reality, in typical mixed farm enterprises this is unlikely to be a significant issue, at this stage. The price of sheep was raised as issues largely due to past investments in the cropping enterprise acting to limit available funds.

Infrastructure

This area was addressed on a number of occasions and it was consistently discovered that infrastructure did not impact stocking rates. This was largely due to these mixed enterprises typically being well set up for sheep already.

Encouraging/enabling increased stocking rates

There appears to be a variety of perceptions in regard to encouraging/enabling farmers to increase stocking rates. Marketing was raised as an area requiring attention with better prices needed for sheep before farmers invested more time and effort in the enterprise. While others believed that good profits can be made and it was just a matter of making people aware of the potential of their sheep enterprise.

Many also focused on feed issues with recommendations for new hard seeded pasture varieties which are suited to the current cropping regime. It was also suggested that a cheap fodder crop was required using a combination of a legume and cereal. Better pasture management was also recommended.

Making sheep work more enjoyable was raised by a number of farmers with technology available to assist in handling sheep and simple things that can be done to which make sheep work more pleasant.

The "On the Sheep's Back" courses were highlighted by a number of growers. These were stated to be successful in shifting people's emphasis from considering returns per head to returns per hectare which in turn lead to increased stocking rates.

The course also appeared to be effective in reducing the potency of the perceived risks of increased stocking rates by focusing on developing exit plans.

Clearly, there is no one size fits all approach to encouraging/enabling farmers to increase stocking rates. Each farmer's situation is different in terms of the physical and financial resources available and their personal aspirations. Hence, a range of options is likely to be required.

Implications for the future of livestock in the Avon

It appears that sheep numbers are likely to increase throughout the Avon. Key drivers will be the cost-price squeeze of cropping and increasing concerns regarding weed management issues.

The speed at which this shift will occur is uncertain but an incremental shift is likely to prove healthier for the industry as a whole. Sudden increases in demand for livestock will increase sheep prices, while increases in the supply of product may act to diminish market price. Consequently, the returns from sheep may decline. However, this could be minimised by building markets for sheep products in anticipation of increases of supply.

The results suggest that the sheep breeds selected will be based on a combination of market conditions and labour supply. In the short term the focus is likely to be on meat sheep and exotic breeds which do not require shearing. While in the longer term wool may come back into vogue.

With renewed interest in sheep, the enterprise is likely to become a specialised area. Hence, on mixed farm enterprises there will increasingly be a cropping and a sheep 'expert'.

In acknowledgement of the nature and situation of continuous croppers it is proposed that many will move to agist sheep on their properties, targeting specific paddocks for weed management. The degree to which they manage these sheep themselves will depend on a combination of their attitude towards sheep and the profit margins they desire.

In the longer terms, sheep enterprises may develop where by people actually do not own any land, relying instead on supplying weed management/fertiliser services to farms and moving their stock around amongst a portfolio of 'clients'. Transport costs will be a key consideration in this regard.

Other Considerations

There were a number of comments in regard to the Department of Agriculture pursuing increased profitability of mixed farm enterprise.

Farmers indicated that they perceived that the Department had demised over the last 10 years and this impacted on their credibility. This observation was pointed squarely at their role in research, with their demise being evidenced by the lack of and new information being delivered.

In acknowledgment of this the Department could undertake a public relations program to improve their reputation and leadership in regard to information delivery and/or they could partner private consultants and take advantage of their credibility (commonly referred to as the 'Halo Effect'). For example, partnering the 'On The Sheep's Back' initiative which appears to be well regarded by farmers.

Another comment which was relevant to the project is related to the continuing pressure being placed on farmers to produce more with less. Many claimed that they had been optimising their enterprises for many years with some resenting further pressure in this regard. These farmers recommended that the Department shifted their efforts into educating the marketplace to foster a higher level of appreciation for their produce which will in turn enable them to garner higher prices in the long term.

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the recommendations

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the recommendations

It was suggested in the results that farmers of today operate in a competitive industry which drives them to seek out information to proactively improve their farms. It was also expressed that farmers generally know what they need to do; they just need to do it.

On the face of this, the Department's role appears to be limited to areas beyond farmers control and those of commercial interest. Hence regulation and education become key roles - protecting the industry for the future and ensuring positive community perceptions to foster its continued success.

However, as with many industries the 80 to 20 rule is likely to apply, with 20% of farmers accounting for 80% of produce. Hence, the view previously expressed may only apply to those top 20% of farmers. The Department therefore has a much more diverse role to play.

Feed and the price received for sheep products were clearly highlighted to be key barriers to increasing stocking rates. The perceived amount of work required to run sheep and the associated current labour issues are also of concern.

Importantly, stocking rates appear to also be strongly related to the degree of risk that farmers are willing to bear. An example of this was that farmers consistently expressed that they did not like to see sheep suffer and acknowledged that they were understocked in previous seasons. However, those that had considered risk management strategies were more willing to optimise their stocking rates.

In moving this project forward a number of recommendations are provided:

- Develop more information and events focused on optimising sheep enterprises. The existence of these extension initiatives will act to reinforce the opportunities from sheep and also highlight the intricacies of sheep management. However, in designing these it is important to acknowledge that individual farmer's issues vary. Hence, rather than developing initiatives which focus on a variety of topics it would be more effective to concentrate on discrete topic area (i.e. labour, risk management, pasture management). This would also allow for shorter extension events/days which would in turn attract more farmers in these busy times.
- Consider developing a partnership with the 'On the Sheep's Back' initiative to fast-track its adoption and delivery.
- Investigate current technology available to assist in managing sheep and promote the options to farmers in acknowledgment of perceptions regarding sheep being 'hard work'.
- Package sheep benchmarking materials and financial data and develop a communications delivery mechanism to maximise farmer's exposure. Importantly, this information should be developed from current farm situations as opposed to financial model to maximise its credibility, reflecting which farmers are actually achieving in various districts.

- Examine the realities regarding the potential for a shortage of shearers in the medium to long term. If found to be significant, identify key stakeholders and develop a plan to address this issue. Key strategies may include sourcing and training people from overseas and strategies to foster the attractiveness of this occupation.
- Examine cost effective feed options in acknowledgement of the current emphasis on tight cropping rotations and the reluctance to introduce ley pastures. This needs to be more than simply promoting new pasture varieties, due to their high entry costs. Options utilising common pasture/crop varieties should be the priority.

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