RMCG

DECEMBER 2017

Tasmanian Beef Pasture Feedbase Survey

Final Report

Tasmanian Beef Industry (R&D) Trust

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1 Introduction

1.1 PURPOSE

Funded by the Tasmanian Beef Industry (R&D) Trust, the purpose of this project was to provide researchers and the broader industry with insights into pasture production and management practices of Tasmanian beef producers.

The specific aims were to:

- Obtain a current and systematic understanding of pasture management practices, decision-making, and the adoption of R&D outputs and new technologies.
- To describe the spectrum of pasture management practices and associated challenges, including the opinions of producers managing grazing systems.
- To understand the potential barriers to adoption of new pasture technologies and recommended practices within the Tasmanian beef industry.
- To understand the needs and priorities of producers, and how these fit with the AgriVision plan to increase productivity of the sector.

1.2 BACKGROUND

The Tasmanian beef industry relies on pasture production. The supply of pasture-fed beef, along with the clean air and a moratorium on the use of Hormone Growth Promotants (HGP) and Genetically Modified Organisms (GMO) provides a strong point of difference for the state's product. Tasmanian pasture-fed beef is sold to domestic and international markets and supported by Meat Standards Australia grading and processor branding to provide a premium product. Pasture production and utilisation is a key profit driver behind Tasmanian beef enterprises, and it is important that feedbase is managed efficiently into the future.

1.3 BEEF INDUSTRY PROFILE

In terms of agricultural production, cattle and calves (including dairy cattle) contribute $314 million of the state's $1.5 billion gross value. In 2014-15, there were 1,197 beef farms in the state, representing a diverse range of scales. Around 48% of farms had an estimated value of agricultural operations (EVAO) of less than $50,000, as shown in Figure 1.3.1 (ABS, 2016).

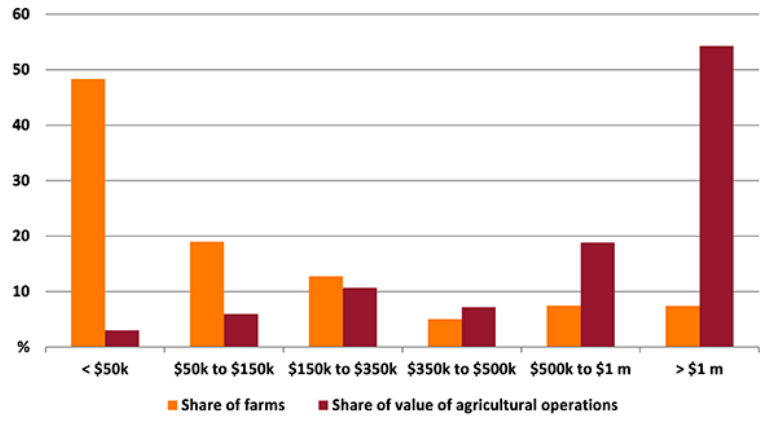


Figure 1: Distribution of farms by Estimated value of agricultural operations, Tasmania, 2015-16 (ABS, 2016)

Tasmania contributed 2.6% or 538,600 tonnes of carcase weight (cwt) to Australia's beef and veal production in 2016-17, with a herd size of approximately 600,000 head (MLA, 2017). In regard to the state's land use, grazing land has decreased significantly in recent years, with an estimated decrease of 6% between 2007-2008 and 2009-10 (Commonwealth of Australia, 2013).

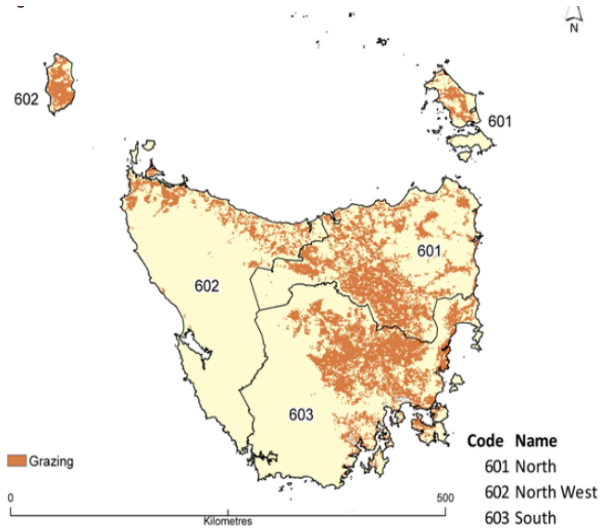


Figure 2: Location of grazing land in Tasmanian natural resource regions, 2005-06 (ABARE-BRS, 2010)

2 Approach

2.1 REVIEW OF EXISTING INFORMATION

Existing information on the Tasmanian beef industry and pasture management practices was reviewed for this report to provide a profile of the industry. This included compiling information on current and previous research and extension projects incorporating work completed by RMCG (RMCG 2012) on pasture re-sowing decisions and pasture composition work by the Tasmanian Institute of Agriculture (Tasmanian Institute of Agriculture 2011). Discussions with industry stakeholders were conducted to understand challenges in pasture management. Based on this review, a survey was developed covering topics including pasture renovation, species selection, tool and technology utilisation and grazing practices.

2.2 INTERVIEWS WITH BEEF PRODUCERS

The survey consisted of 35 producer interviews, this included 9 face-to-face and phone interviews, and 26 online interviews. The survey aimed to interview producers across the state, covering a range of farming systems in regard to enterprise mix, rainfall, irrigation availability and farm size.

Interviewees were selected from the RMCG database and interviews were arranged by either phone of face-to-face. Online participants were targeted through the database, as well as through advertising through industry newsletters, producer groups and social media platforms.

Two surveys were developed to cater for face-to-face/phone, and online interviewees, respectively. The face-to-face/phone survey was developed on qualitative principles, providing an in-depth insight into the producer's situations through open-ended conversation, over the course of approximately 45 minutes.

The online survey, developed using Survey Monkey, although following the same logic, had a more quantitative focus, with a condensed format and limited qualitative questions, to ensure an adequate number of responses were captured. The online survey took participants an average of 12 minutes to complete.

Table 1: The number of farms, hectares and cattle covered in the interview by NRM region.

REGION	NO. INTERVIEWS	PASTURE AREA (HA)	% OF TOTAL INTERVIEWS
North West (Inc. King Island)	11	13,931	32%
North (Inc. Flinders Island)	18	14,705	53%
South	5	2,832	15%
TOTAL	**34**	**31,468**	**100%**

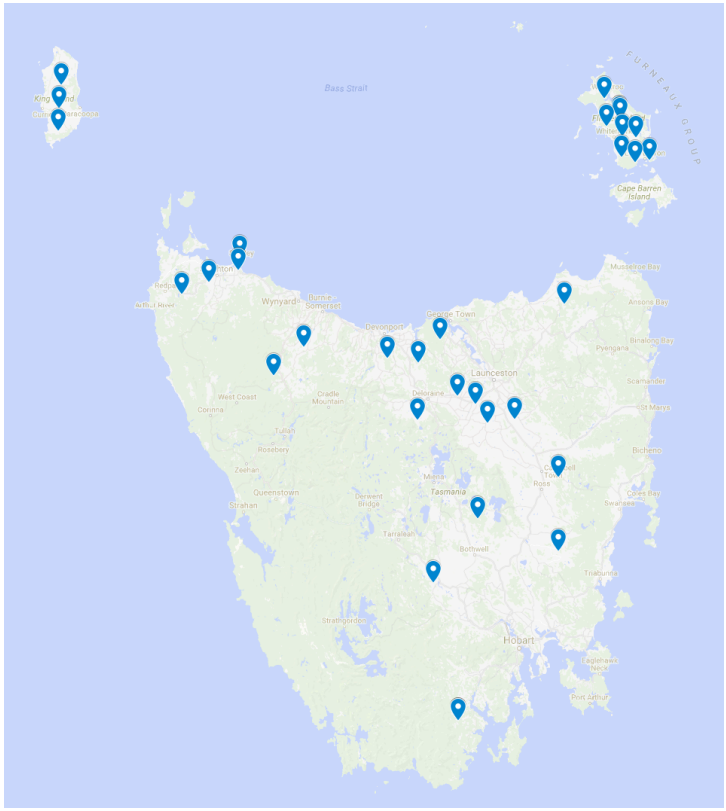


Figure 3: Map of survey participant postcodes

3 Findings

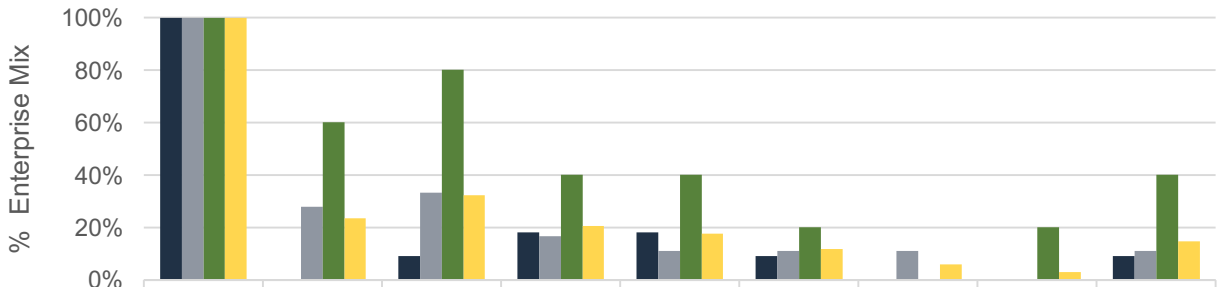
3.1 TASMANIAN BEEF INDUSTRY AT PRESENT

This section describes the current practices and views of interviewed beef producers in Tasmania.

ENTERPRISE MIX

Tasmanian farming businesses are some of the most diverse in the country, many host several enterprises at any one time. Interviewed beef producers provided detail on their enterprises to increase the understanding of their business complexity, and any impact it may have on their pasture decision making.

Within the survey sample, beef only enterprises were concentrated in the North West and North of the state, with the exception of one smaller enterprise in the state. Eight of the beef only respondents were located on King Island and Flinders Island. The most common enterprise alongside beef was prime lamb (32%). 'Other' enterprises of interviewed producers included hemp, goats, tree nursery and cherries.



	Beef	Wool	Prime Lamb	Cropping (Grain, seed)	Poppies	Vegetables	Dairy	Forestry	Other
North West	100%	0%	9%	18%	18%	9%	0%	0%	9%
North	100%	28%	33%	17%	11%	11%	11%	0%	11%
South	100%	60%	80%	40%	40%	20%	0%	20%	40%
Total	100%	24%	32%	21%	18%	12%	6%	3%	15%

Figure 4: Enterprise mix of farms interviewed by NRM region

HERD SIZE AND BEEF ENTERPRISES

Beef herd size of participants was largest in the North and North West of the state, and smallest in the South with herd sizes of less than 250 head (Figure 5). Herds consisted of a mix of beef enterprises, with breeding enterprises most significant, followed by breeding and finishing. Trading and finishing, and breeding, trading and finishing was limited to 11% and 12% of businesses, respectively.

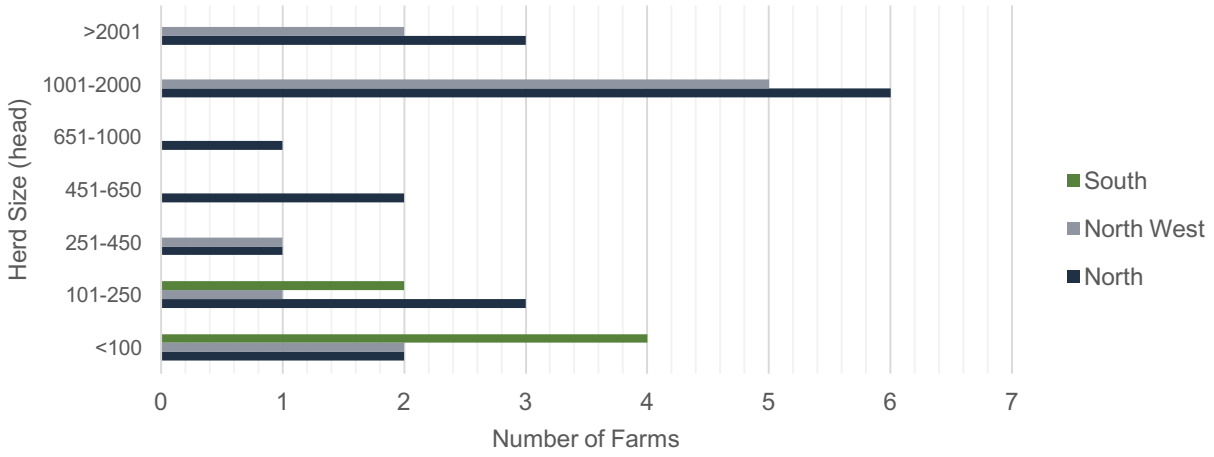


Figure 5: Herd size of farms interviewed by NRM region

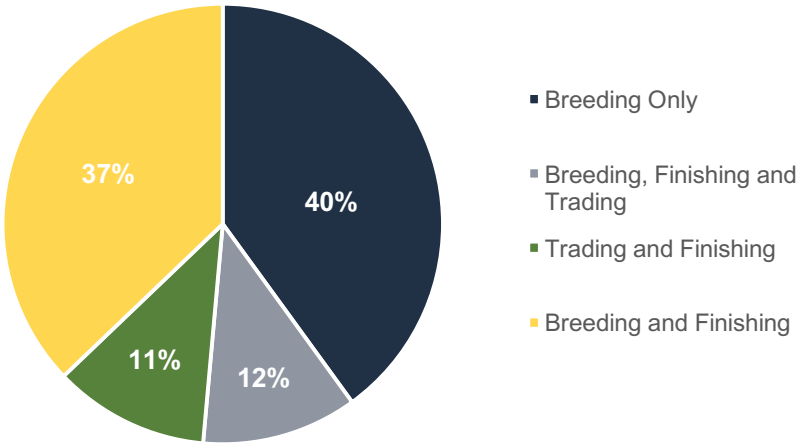


Figure 6: Beef enterprise types of farms interviewed

CHARACTERISTICS OF BEEF FARMERS

The majority of farmers interviewed were owners and managers of their farm business, only four participants (11%) were farm managers, not owners. The most common age group of participants was 51 to 75 years old (60%), followed by 36 to 50 years old (26%) as shown in Figure 7. This is in line with Australian Bureau of Statistics data for 2015-16, finding the average farmer is 56 years old (ABARES, 2016).

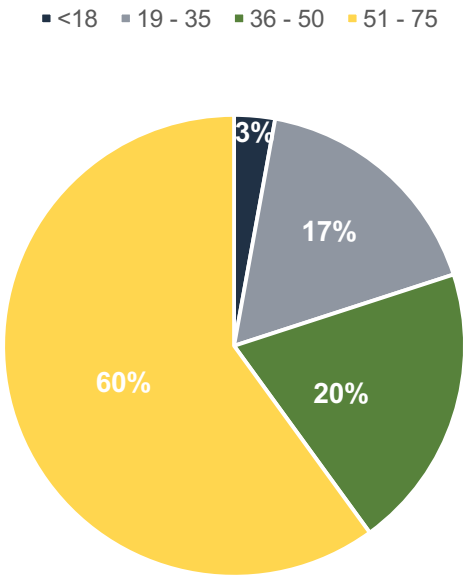


Figure 7: Age group of interviewed producers

3.2 GRAZING MANAGEMENT

The majority of beef producers (30) interviewed best described their grazing method as rotational, only 5 respondents described their grazing method as set-stocking. Producers that rotationally graze their pastures were asked to expand on their decision making behind this method. Although, as highlighted in the qualitative surveys, their rotational grazing systems often became more casual with practical considerations during winter and calving periods.

> "TRADITIONALLY, PADDOCKS ARE SET UP FOR A 5-7 DAY REST PERIOD, BUT IT VARIES WITH SEASONAL CONDITIONS, IN THE WET, WE MOVE THEM QUICKER AND IN THE SPRING, WE STRETCH IT OUT TO UTILISE FEED."

Visual assessment was the most common method used by interviewed producers when deciding when to start and finish grazing a paddock, with 43% and 54% of producers using this method alone for starting and finishing respectively. A number of respondents had used pasture rulers or plate meters in the past, but had defaulted to visual assessment with time. Participants who had previously completed 'Pasture Principles' training were more likely to use Leaf Emergence Rates to determine when to start grazing. Two producers also mentioned the use of TIA 'Dairy on PAR' Leaf Emergence Rate figures for their region, which is received via email on a fortnightly basis.

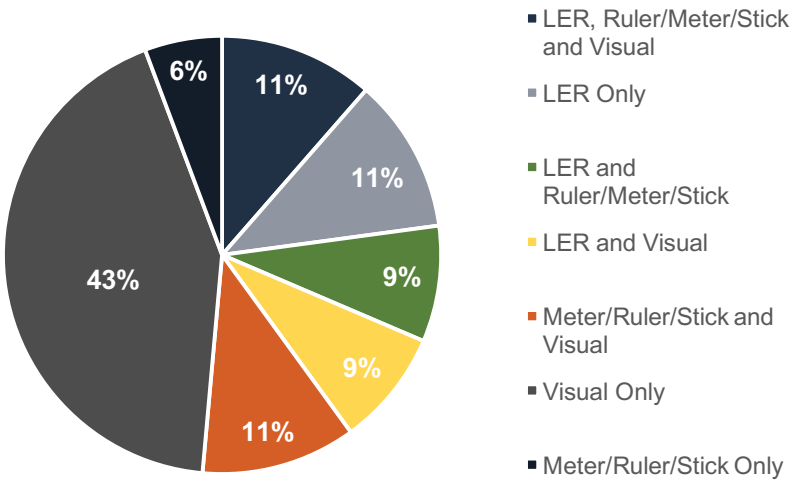


Figure 8: Methods used to determine the start of the grazing period

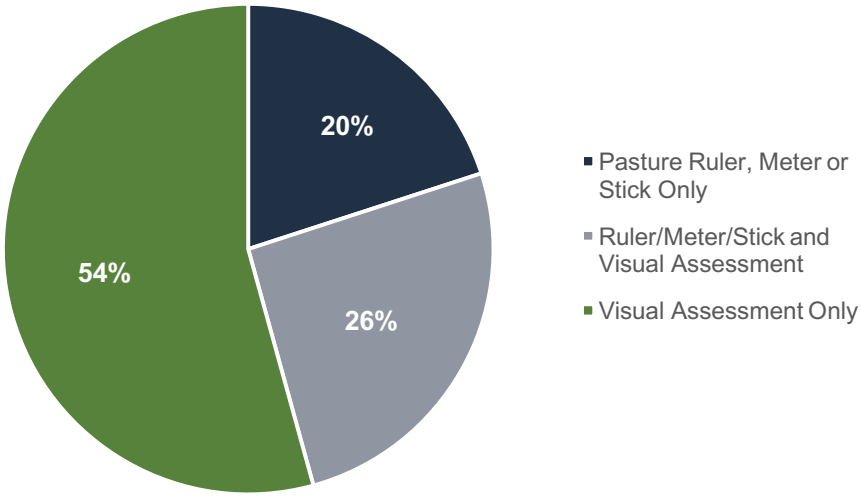


Figure 9: Methods used to determine the end of the grazing period

3.2.1 DRYLAND PASTURE COMPOSITION

Ryegrass was undoubtedly the most common dryland pasture species grown by interviewed producers, followed closely by clover and cocksfoot. When asked about the value of the legume component of the pasture in terms of production, producers rated it highly, averaging 4/5 on a scale of 1 to 5.

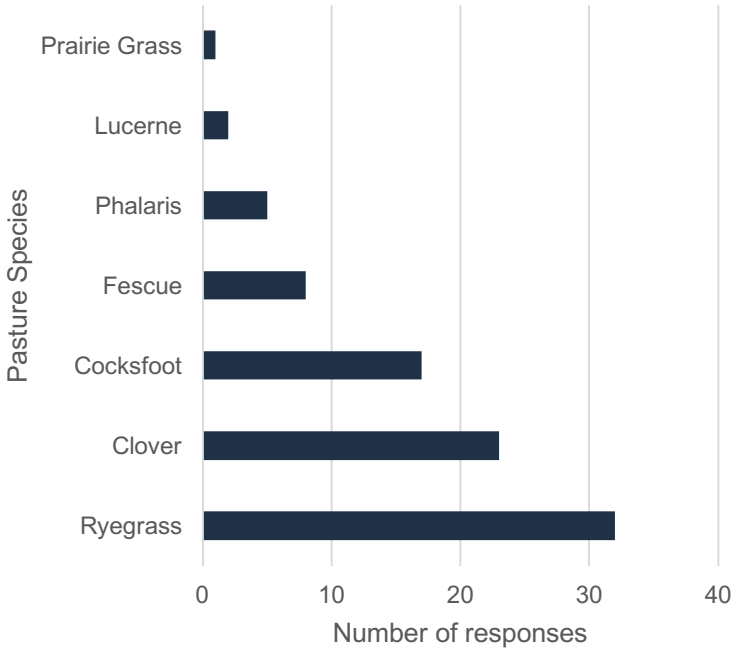


Figure 10: Improved pasture species on farm

3.2.2 FEED BUDGETING AND TESTING

The majority of producers interviewed used their experience (including past records) and 'gut feeling' to determine the amount of feed they would need to feed out. Many also based how much feed they conserved on the amount that was still on hand, or had a set amount that they preserved i.e. 'fill the hay barn'. Others opted to avoid conserving or buying in feed by using the 'hay stack on the cows back', allowing a reduction in condition score, while others destocked rather than buying in feed. Feed budgeting was utilised by 26% of producers, varying from extensive spreadsheets to simple calculations such as 'a bale of stored feed per head'.

> "ONCE A YEAR WE DO A FEED BUDGET AND WORK OUT HOW MUCH WE NEED AND GO FROM THERE. [WE] PUT IN CROPS OR CONSERVE HAY TO MEET [STOCK] REQUIREMENTS"

Testing the quality of feed on hand not a standard practice, with 43% of producers having never feed tested pasture, hay, silage or grain.

3.3 IRRIGATION

Almost half (46%) of interviewed pastures had irrigation on their properties, of these producers 88% had an area of pasture under irrigation. This included pasture for grazing and/or for a break in crop rotation. Only one business had a beef only enterprise, the balance having grain a broadacre cropping, poppy or vegetables enterprise. Two producers interviewed mentioned the 'green drought' and their awareness of recent work completed by the Tasmanian Institute of Agriculture in this area. 'Green drought' is a term used to describe when pasture is green from recent rain or irrigation, although not necessarily productive.

3.3.1 IRRIGATION SCHEDULING

Visual assessment was the most predominant source of information used for pasture irrigation decisions, followed by water balances/schedules.

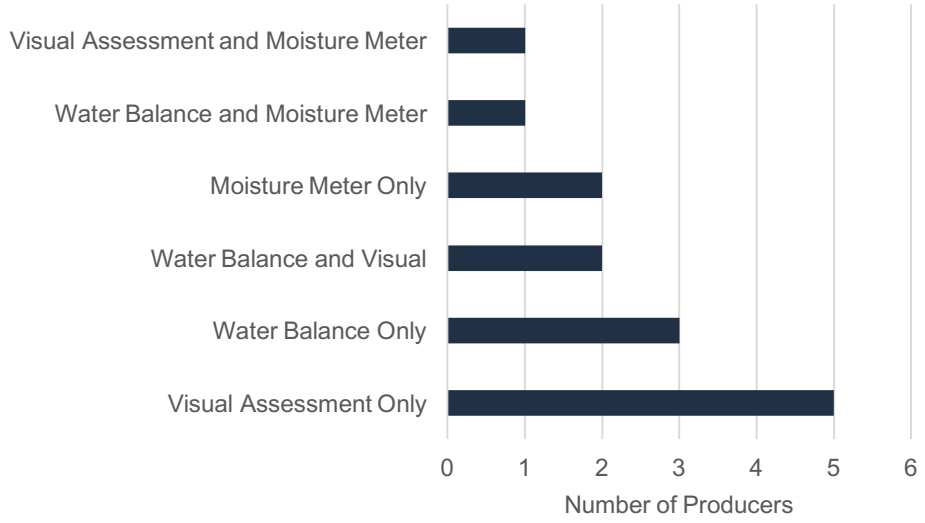


Figure 11: Information used by interviewed producers to initiate irrigation of pasture areas

3.4 VARIETY SELECTION

The majority of producers had sown newer pasture varieties on their property; defined as varieties that were not previously established on the property. The response as to how these varieties have performed were mixed, with the majority of responses positive. The issue of persistence was a common concern amongst producers.

"WE'RE LOOKING FOR PRODUCTIVITY, SUITABILITY TO THE ENVIRONMENT, LONGEVITY, QUALITY AND THE ABILITY TO ADAPT TO INSECT PRESSURE"

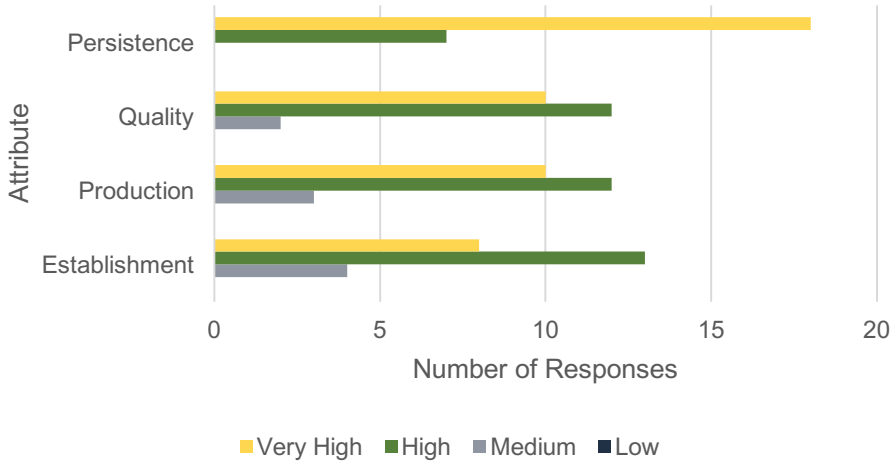


Figure 12: Importance of persistence, quality, production and establishment attributes when selecting a pasture varieties

Interviewed producers rated persistence as the attribute of highest importance when selecting a pasture species, followed by production, quality and establishment. Although, this varied depending on the longevity required from the pasture species (annual or perennial). For example, in a crop rotation where pasture is used for one season, production is valued more than persistence. It should also be noted that a large proportion of grazing land is non-arable, and unable to be readily renovated. In these non-arable areas, persistence is favoured.

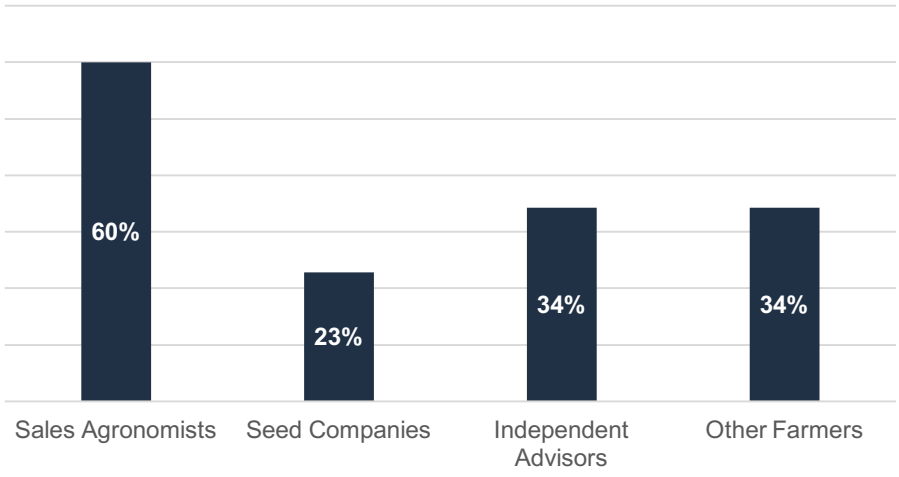


Figure 13: External source of advice when selecting pasture varieties

When it came to selecting a pasture varieties, interviewed producers used sales agronomists as a key source of advice. This source of advice was followed by independent advisors, other farmers and seed companies, respectively.

"WE SELECT PASTURE VARIETIES BY READING FACT SHEETS, VISUALLY ASSESSING LOCAL TRIAL SITES AND SPEAKING WITH SALES AGRONOMISTS"

3.5 RENOVATION PRACTICES

Interviewed producers were asked when they last renovated a pasture on their property. The majority (86%) of producers had renovated in the past 12 months, followed by 11% who had renovated in the past 12 months to 5 years. A further 3% (1) had not renovated in the past, the reasons for this included having recently purchased their property.

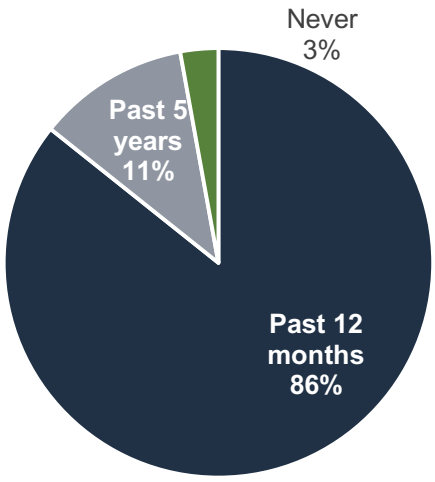


Figure 14: Time period since last pasture renovation of interviewed producers

Of the producers that had renovated in the past 5 years, 37% had renovated less than 50 hectares over the period. A further 50% had renovated under 300 hectares, and 13% had renovated over 300 hectares.

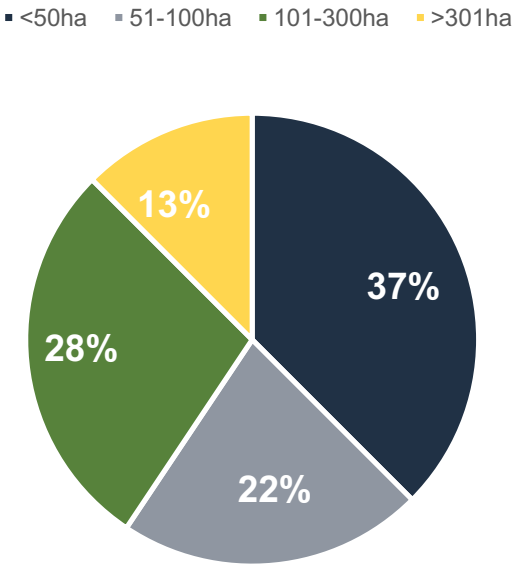


Figure 15: Pasture area renovated in the past 5 years

3.5.1 CHALLENGES OF RENOVATION

Producers were asked to rate the significance of challenges faced when renovating their pastures. The majority of producers responded that cost and persistence were significant concerns (Figure 16). Pest and disease pressure were a moderate to significant concern to respondents.

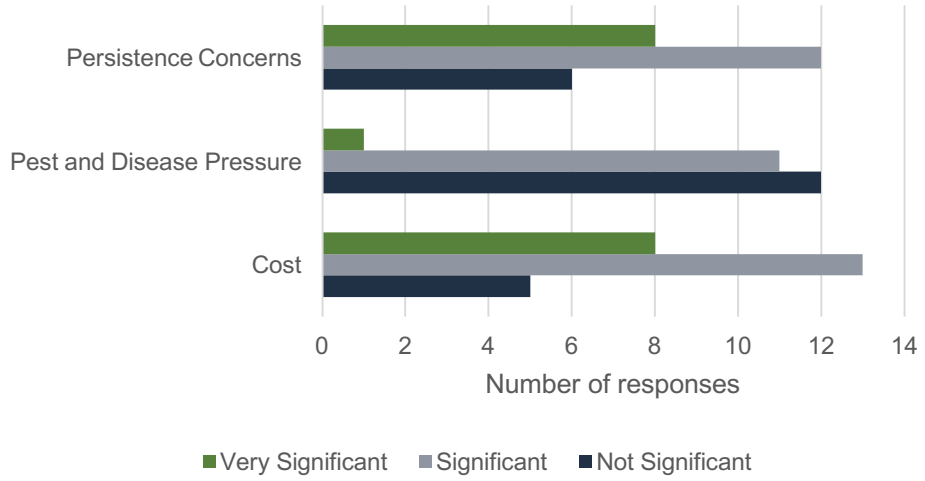


Figure 16: Renovation challenges of interviewed producers

In regard to other challenges, producers noted the following in addition to the questions asked, shown in Figure 16:

- Stony paddocks - Issues with modern machinery/techniques in stony areas
- Rainfall – accurate forecasts and timing operations with rainfall
- Availability of contractors
- "we Aim is to sow permanent pasture to non-cropping areas that will stay permanent for at least 30 years. we end up renovating 7-8% of permanent pastures every year, Direct drilling a fodder crop in the spring, then sow down in autumn with permanent pasture. Sometimes if isn't good enough to sow down, we might put an annual in for 12 months."
- Payback period and cost-benefit of renovation

Among the producers interviewed, there was a theme of attempting to correct fertility constraints and apply to appropriate grazing pressure to improve pasture composition and production, before considering renovation.

"TRY AND AVOID RENOVATING IF WE CAN, IF IT'S WORKING LEAVE IT ALONE. WE WORK ON IMPROVING SOIL FERTILITY AND GRAZING MANAGEMENT BEFORE WE TRY RENOVATING A PADDOCK"

3.6 NUTRIENT MANAGEMENT

3.6.1 SOIL TESTING

When it came to soil testing practices of interviewed producers, the majority of respondents (37%) had taken more than 15 tests in the past 5 years over their pasture area. This was in contrast to the second largest group (26%) of respondents that had done less than 5 tests in the past 5 years.

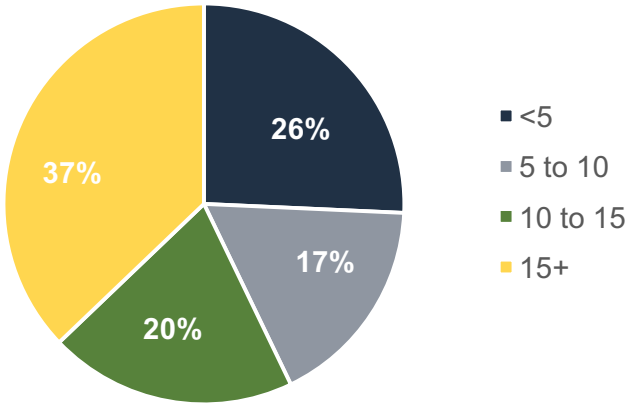


Figure 17: Number of soil tests on pasture areas in the past 5 years

3.6.2 DECISION SUPPORT

In regard to nutrient management on farm, the majority of producers (32%) used a fixed fertiliser application schedule alone for deciding on fertiliser application rates. Agronomist recommendations only were used by 26%.

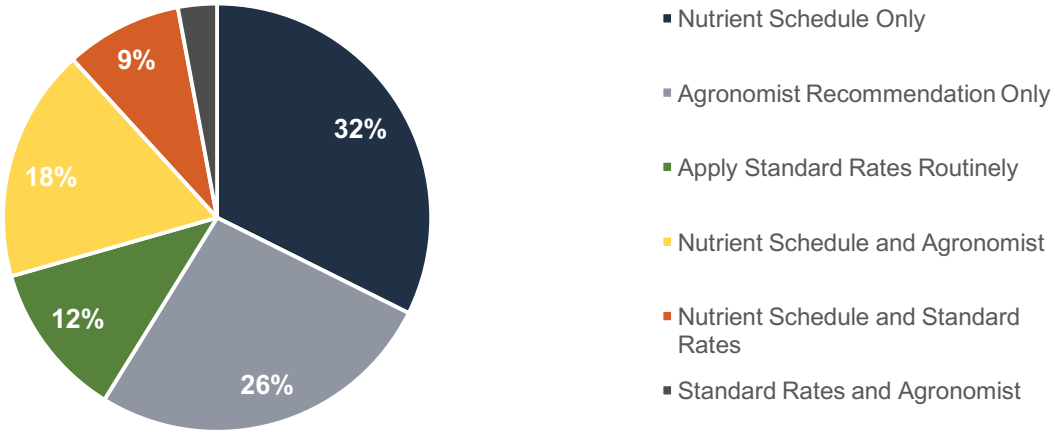


Figure 18: Decision making on fertiliser application of interviewed producers

3.7 TOOLS AND TECHNOLOGIES

When asked survey participants to select decision tools and technologies they used to support their pasture decision making, the majority of respondents selected ‘weather applications’. Other tools and technologies noted by producers included farm management software such as AgriWebb and budgeting spreadsheets available from service providers.

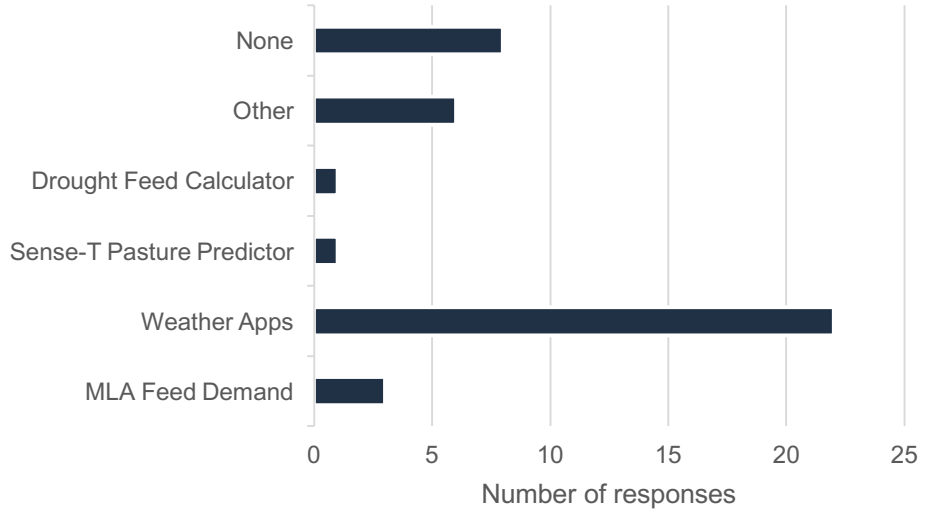


Figure 19: Tools and technologies utilised regularly for pasture decision making

3.8 EXTENSION

When asked where they sourced information on pasture management, producers responded that agronomists and advisors were their key source of information. This was followed closely by information sourced from other producers and online. Extension providers, programs or events were not mentioned as a main source of information.

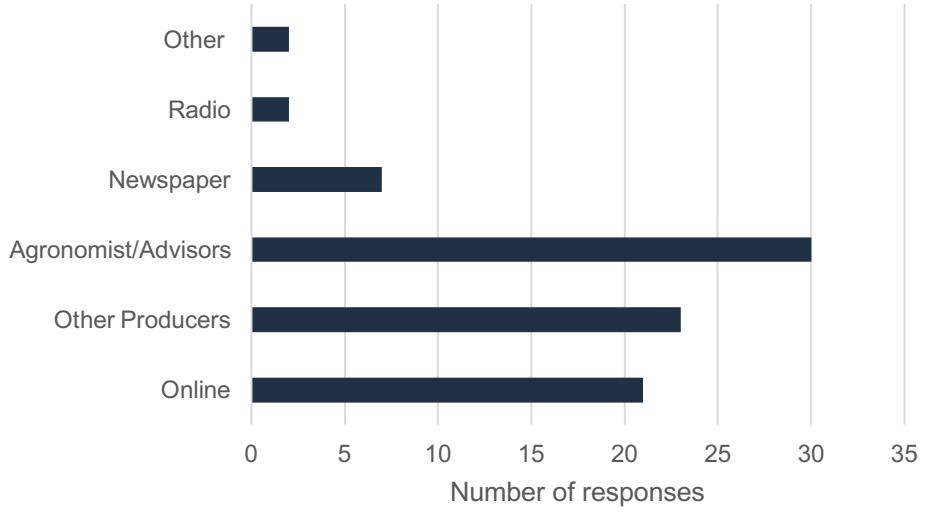


Figure 20: Sources of information for pasture decision making

The most commonly attended pasture-focussed program was More Beef from Pastures and/or Making More from Sheep, a Meat and Livestock Australia initiative developed in 2004 (Meat and Livestock Australia, 2017). ProGraze, a grazing management program initiated in 1994 by NSW DPI, and delivered in collaboration with Meat and Livestock Australia, was undertaken by 20% of the producers interviewed by Department of Primary Industries, 2017.

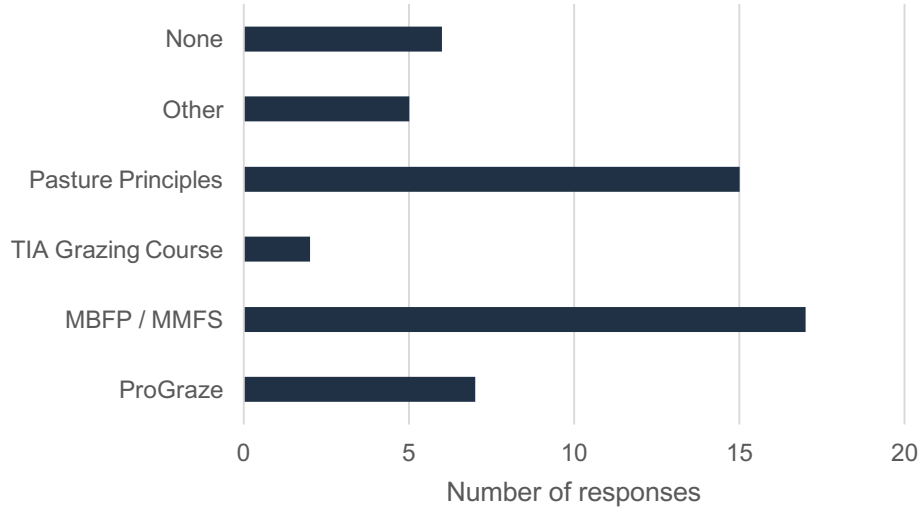


Figure 21: Participation in pasture-focussed programs

Since the conclusion of the 'active' component of above-mentioned programs, coaching models have been gaining popularity. These include Pasture Principles and the recently developed Profitable Grazing Systems (PGS).

Pasture Principles has been rolled out in Tasmania in recent years, and 42% of survey respondents participated in it. Developed by Macquarie Franklin, the program engages groups of producers over a 12-months period. During the program, producers are provided with a set of guiding principles for their pasture management, which is supported by 6 coaching sessions to implement and discuss theory (Macquarie Franklin, 2016). The program's impact has not yet been reviewed.

Two producers also mentioned the utilisation of TIA 'Dairy on PAR' Leaf Emergence Rate figures for their region, which is received via email on a fortnightly basis.

> "[PASTURE PRINCIPLES] HAS SHARPENED UP OUR FOCUS ON GRAZING MANAGEMENT. MAKING SMALLER PADDOCKS TO GET BETTER UTILISATION AND HAVING A BETTER HANDLE ON WHEN TO PUT STOCK IN AND TAKE THEM OUT [OF PADDOCKS]."

3.9 AREAS FOR FURTHER RESEARCH AND EXTENSION

To gain a deeper understanding of the needs of interviewed producers in the area of pasture management, they were asked if there were any topics that they felt needed further investigation or information on. Suggestions included the following:

- Managing initial establishment of perennial pastures for long-term success
- Biological enhancement of pasture health
- Autumn ill-thrift of beef cattle - achieving moderate to high weight gain off pastures during this time
- Managing pastures in a changing climate
- Persistence of old and new varieties
- Production benefits of short-term ryegrass
- Trigger points of when to re-sow a pasture
- Managing bloat
- C4 and native pasture species evaluation
- Army worm tolerance
- More detailed and accurate Pasture Growth Rate (PGR) data
- Virtual fencing, auto-gates and on-farm technology networks

3.10 KEY FINDINGS FROM THE SURVEY

When it comes to decision making on pasture management, 'gut feel' and other subjective measurements supported many of interviewed producer's decisions, from grazing, to irrigation and pasture nutrition. In the area of grazing management, many of these producers had previously used pasture plate meters and rulers, for some time, before going back to visual and 'gut feel' means. It was evident that producers who had participated in the coaching program 'Pasture Principles' were more likely to use Leaf Emergence Rate (LER) to guide their pasture rotation. Detailed feed budgeting and feed quality testing was limited amongst respondents, with many using 'tried and true' rules of thumb to determine feed requirements of their stock.

Irrigation was commonly used on pasture areas amongst the respondents, although often part of a crop rotation. The use of irrigation on these areas was for a mixture of grazing and break-crop purposes. Irrigation application was determined predominantly through visual means, although there were two mentions of the green drought, indicating awareness among the state's producers.

Variety selection was strongly supported by sales agronomists engaged by producers, as were fertiliser decisions and general production information. Among producers, persistence was a key attribute when selecting varieties.

For many enterprises, although recent, pasture renovation was limited in terms of area, with the majority renovating less than 50 ha in the past 5 years. This is arguably driven by a combination of reliance on more persistent post-war improved ryegrass pastures and increased intensification of cropping enterprises with the roll-out of extensive irrigation schemes (Tasmanian Institute of Agriculture, 2017). A number of producers preferred to improve their existing settlement pastures through grazing management and nutrition before starting to consider renovation.

Overall, advanced tools and technologies had limited use by producers; weather data was the most commonly used application. The use of online tools was low, and there was preference amongst some respondents to make their own spreadsheets. In regard to addressing this concern, work completed by the Precision 2 Decision project recommends that upgrades to adviser services and the development of extension, including producer demonstration sites could assist with adoption of new technologies (University of New England, 2017).

Extension initiatives must consider that not all producers have the same requirements, knowledge, skills or attitudes. Multiple extension methods should be used. Extension and training should encompass farm managers and advisers.

The main preference for regular information transfer amongst respondents was to use agronomists and advisors, followed by online sources when obtaining information for pasture decision making. In regard to

extension activities, the majority of producers had participated in a pasture-focussed program in the past, including Pasture Principles, ProGraze and More Beef from Pastures.

4 Recommendations

The following areas require further insights, e.g. via focus groups or one-on-one discussions and extension:

- Understanding the reasons for limited feed quality testing and feed budgeting practices. Exploring the issue, including current awareness, challenges (i.e. limited feed purchases and favourable growing conditions, irrigation) and advisor engagement.
- The diverse enterprise mix of Tasmanian farms, provides challenges and opportunities for integration. There is a need to further explore these mixed operations and understand the value of grazing pasture phases in the rotation.
- Current profitability of beef production needs to be more widely understood by producers to enable accurate estimates of financial returns from pasture production, including return on investment and cost of production.
- Barriers preventing producers from using tools and technologies including internet accessibility, complexity, perceived relevance of new tools and technologies, quality of advice, the value for money and overall technology skills in Tasmanian agriculture.
- How to further reinforce the link between pasture management practices and production/profitability, including grazing management, feed budgeting and soil nutrition through extension programs such as Pasture Principles and other focussed initiatives.

5 References

ABARES 2016*, About my region – Regional Profiles – Tasmania. Access at:* http://www.agriculture.gov.au/abares/research-topics/aboutmyregion/tas

ABARE-BRS 2010, *Land use in Australia 2005-06 - Version 4,* Australian Bureau of Agricultural Resource Economics – Bureau of Rural Sciences, Canberra.

AgriGrowth Tasmania 2016, *Tasmanian Agri-Food Scorecard 2015-16*. Access at: http://dpipwe.tas.gov.au/Documents/Tasmanian%20Agri-Food%20Scorecard%202015-16.pdf

Commonwealth of Australia 2013, *Land management practice trends in Tasmania's grazing (beef cattle/sheep) industries.* Access at: http://www.agriculture.gov.au/SiteCollectionDocuments/natural-resources/soils/trends-factsheets/tas-practices-grazing.pdf
Department of Primary Industries 2017, PROGRAZE Ninth Edition. Access at: https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0005/700457/Prograze-ninth-edition.pdf

Macquarie Franklin 2016, *Pasture Principles – A practical guide to pasture management*. Access at: https://www.nrmsouth.org.au/wp-content/uploads/2015/12/Pasture-Principles-2016-program-information.pdf

Meat and Livestock Australia 2017, *Australian Beef Eating Quality Insights 2017.* Access at: https://www.mla.com.au/globalassets/mla-corporate/marketing-beef-and-lamb/documents/meat-standards-australia/2017_mla_msa-booklet2017_lr.pdf

Meat and Livestock Australia 2017, *Fast Facts 2017. Access at:* https://www.mla.com.au/globalassets/mla-corporate/prices--markets/documents/trends--analysis/fast-facts--maps/mla_beef-fast-facts-2017_final.pdf

Meat and Livestock Australia 2017, *Meat Standards Australia Annual Outcomes Report 2016-17*. Access at: https://www.mla.com.au/globalassets/mla-corporate/marketing-beef-and-lamb/documents/meat-standards-australia/msa-aor-2016_2017-lr.pdf

Meat and Livestock Australia 2017*, More Beef from Pastures*. Access at: https://www.mla.com.au/extension-training-and-tools/more-beef-from-pastures/

RMCG 2012, Understanding Pasture Re-sowing Decisions for Meat Producers. Access at: https://www.mla.com.au/CustomControls/PaymentGateway/ViewFile.aspx?OFIOXy3VXHRRs8EaO0hdT3hS2ocXLBWUcSExSOtqLiU2iyBxLRsUMUU5WQwZIIUM3EYMKKAfsht7d1Tnt3BqiA
Tasmanian Institute of Agriculture 2011, *Tasmanian Pasture Resource Audit: Snapshot of functional group composition in 2011*. Access at: http://www.regional.org.au/au/asa/2012/pastures/8190_smithrw.htm

Tasmanian Institute of Agriculture 2017, *Research and Development – Pastures*. Access at: http://www.utas.edu.au/tia/centres/extensive-agriculture-centre/r-and-d/research-and-development/pasture

University of New England 2017, *Accelerating Precision Agriculture to Decision Agriculture – Enabling digital agriculture in Australia*. Access at: http://farminstitute.org.au/LiteratureRetrieve.aspx?ID=160979

Appendix 1: Survey Guide – Full

Tasmanian Pasture Feedbase Survey

Thank you for participating in the Tasmanian Pasture Feedbase Survey. Your answers will provide researchers and broader industry with insights into pasture production and management practices. The survey is funded by the Tasmanian Beef Industry (Research & Development) Trust.

Your answers will remain confidential and not identifiable. The information gathered will be used to identify themes and issues. The information will inform potential future research or other activities for the beef industry in Tasmania.

1. Details

Name

Interviewer

Location

2. What is your postcode?

3. Which age bracket are you in?

- ◯ <18
- ◯ 18-35
- ◯ 36-50
- ◯ 51-75
- ◯ >75

4. What is your role in the farm business?

- ☐ Owner
- ☐ Manager
- ☐ Farm Hand
- ☐ Other (please specify)

3. About Your Farm Business

1

5. What enterprises do you run?

- ◯ Beef
- ◯ Prime Lamb
- ◯ Wool
- ◯ Grain/Seed
- ◯ Poppies
- ◯ Other (please specify)
- ◯ Vegetables
- ◯ Forestry
- ◯ Dairy Agistment
- ◯ Other……

6. How many head of beef cattle do you run?

- ◯ <100
- ◯ 100-250
- ◯ 250-450
- ◯ 450-650
- ◯ 650-1000
- ◯ 1000-2000
- ◯ 2000+

7. How would you describe the role of the beef enterprise in your business

[Interviewer: Is it a primary enterprise? Are they breeding or trading? Ie What describes the beef enterprise, breeder, feeder steer supplier, breeder finisher, trader? How important is the beef enterprise currently to your business, is it a primary or secondary enterprise? +How has the value to your business of the beef enterprise changed in the past 10 years…]

8. INTERVIEWER: How would you best describe your beef business?

- ☐ Breeding
- ☐ Trading
- ☐ Finishing

9. How many hectares do you farm? [This includes non-arable areas.]

10. What is your stocking rate (DSE/ha or Hd/ha)?

11. What is your production in Kg/ha?

12. How many ha do you have under irrigation?

13. What are the goals and priorities of your business? [overall business, not only beef]

14. What opportunities do you see that will help get you there?

15. What are the challenges, what may stop you from getting there?

4. Pasture Management

16. Where does your beef enterprise fit in that list of opportunities and challenges? how much of a future priority is it?

17. How many hectares of your operation is pasture?

18. How many hectares of your pasture area is unimproved (under native or volunteer pasture species)? Why?

19. What are the main improved pasture species on your property?

20. How many hectares of pasture (annual or perennial) is typically under irrigation in any 1 year period?

21. How would you describe your grazing system?.

22. How do you decide on start, finish, rest periods and period under grazing.

23. (Irrigated pastures) What is the role of these irrigated pastures on your property? (Question for producers with irrigated pasture ONLY) Interviewer: Pasture role in the rotation? Where is the main benefit seen? Is it weight gain of livestock? or is it agronomics i.e. weed/disease control, erosion control?

24. What classes of stock use the irrigation and for what livestock purpose?

25. How do you plan that you have enough feed from both pasture and supplementary feed (hay, grain etc.) to meet stock requirements throughout the year? [Interviewer: This is around feed budgeting, what tools are used and how it fits with market strategy and flexibility / business decisions)

26. How often do you monitor cattle body condition scores?

27. How do you decide what fertiliser to apply (rate, product, how often and where? Interviewer: [Is it calculated by the producer? Is it a recommendation from an advisor? Do they soil test or make a guess?

28. How many soil tests have you done in the last 5 years?

29. How often do you test the quality of pasture, hay, silage or grain?

- ◯ Never
- ◯ Sometimes
- ◯ Often

30. (Irrigated pastures) How do you decide when to irrigate pastures? What is the process you follow to determine the amount to apply and when?

31. What tools, if any, do you use for pasture decision making? [Interviewer: Including apps, sofware etc (The Yield, Feed Demand Calc,Sense-T, Rainfall to Pasture Outlook, BOM etc) and physical tools, meters, rulers, visual estimations of kgDM/ha]

5. Extension

32. Which pasture focussed programs have you previously been involved in (e.g. ProGraze, Pasture principles, MBFP, MMFS, other events)?

33. What learnings have you applied on your farm from these programs?

34. Were there any components of the programs that you thought were important or valuable but didn't take back to implement on farm and why?

35. What is your preferred format for programs/events? [E.g. timing, location, content, activity type]

36. What is the best information you've ever received on pasture management and how/why?

6. Pasture Improvement

37. What is your pasture renovation strategy? Interviewer: [Process, renovation method, fit with farming system]

38. When was the last time you renovated a pasture? *

- ○ In the last 12 months (See Section 7)
- ○ In the past 5 years (See Section 8)
- ○ More than 5 years ago (See Section 9)
- ○ Never (See Section 10)

Tasmanian Pasture Feedbase Survey

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7. Renovated Pastures Recently

39. What proportion of your grazing land have you renovated in the past 5 years?

40. Why do you renovate pasture? What are the benefits?

41. Do you believe that pasture renovation has paid off? What do you believe the payback period to be?

Go to Section 11

Tasmanian Pasture Feedbase Survey

8. Improved Pastures >5yrs ago

42. Why have you decided not to renovate pastures recently?

43. How much pasture renovation did you once do? What were the benefits?

44. What needs to change for you to recommence renovating pastures?

Go to Section 11

Tasmanian Pasture Feedbase Survey

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9. No Pasture Improvement

45. Why have you not pursued pasture renovation?

46. What would it take for you to invest in pasture renovation?

Go to Section 12

Tasmanian Pasture Feedbase Survey

10. Pasture Species Selection

47. What are you looking for when choosing a pasture species?

48. When choosing pasture species, which attributes do you rate more highly? [e.g. production or persistence]

49. How valuable do you rate the importance of legume component in your species selection. (rate from one to five, where 1 is very valuable and 5 is not very valuable)

1 5

50. Where do you get advice about pasture species?

- Sales Agronomists
- Independent Advisors
- Seed company representatives or resources
- Other farmers
- Other

51. How have newer pasture varieties performed? [e.g. establishment, persistence, dry matter production, overall suitability]

52. How do you select pasture varieties?

11. Drivers and challenges

53. Has your pasture renovation strategy changed in the last 10 years? Why?

54. What challenges are you facing when it comes to renovating pastures? Rate the significance of constraints from Not Relevant to Very relevant.

	Not Relevant	Relevant	Very Relevant
Cost	○	○	○
Prest and Disease Pressure	○	○	○
Persistance Concerns	○	○	○

Other (please specify)

55. What is motivating you to continue renovating your pastures?

12. Information and Resources

56. Where do you source information on pastures from? (e.g. online, neighbours, agronomists/advisors?)

57. What advice or information would help you with pasture production?

58. What is your email address? [Your email address is optional and if provided will remain confidential and only be used to send you a copy of the final report]

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Appendix 2: Survey Guide – Online

Tasmanian Beef Pasture Feedbase Online Survey

Tasmanian Beef Pasture Feedbase Survey

Complete the Tasmanian Beef Pasture Feedbase survey for the chance to win a **Gallagher Geared Pre-Wound Wheel.**

The online survey takes less than **20 minutes** to complete, and focusses on pasture management.

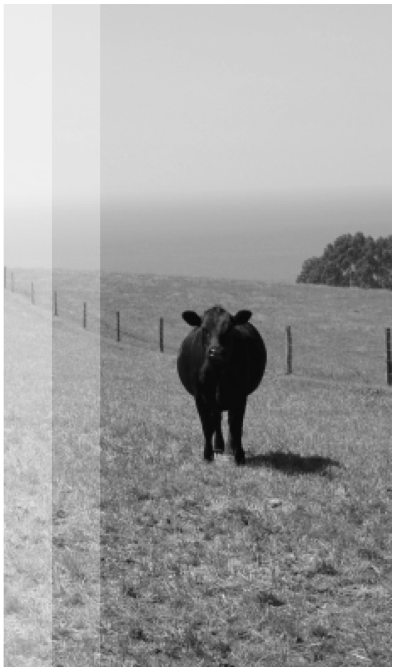
The results will be used to guide future research, development and extension.

Answers will remain confidential and non-identifiable. The information gathered will be used to identify themes and issues.

If you would like to arrange a phone interview, please contact **Emma Egan**, RMCG on **emmae@rmcg.com.au** or **0448 214 745**

This project is funded by the Tasmanian Beef Industry Research and Development Trust and delivered by RM Consulting Group.

RMCG



1. Name (Optional)

2. What is your phone number? (This will be used to contact you if you are the winner of the Gallagher Fence Reel and will remain confidential)

* 3. What is your postcode?

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* 4. What enterprises do you run?

- [ ] Beef
- [ ] Wool
- [ ] Prime Lamb
- [ ] Cropping (Grains, seed)
- [ ] Other (please specify)
- [ ] Poppies
- [ ] Vegetables
- [ ] Dairy
- [ ] Forestry

* 5. What is your age?

- ( ) <18
- ( ) 19 - 35
- ( ) 36 - 50
- ( ) 51 - 75
- ( ) > 76

* 6. What is your role in the farm business? (Please select more than one option if applicable)

- [ ] Owner
- [ ] Manager
- [ ] Farm Hand
- [ ] Other (please specify)

* 7. How many hectares is your property, including any non-arable areas?

- ( ) <200ha
- ( ) 200-500ha
- ( ) 500-1000ha
- ( ) 1000-2000ha
- ( ) >2000ha

* 8. How many hectares is typically under pasture in any one year?*(For example, you typically have 300ha of perennial dryland pasture, and one 30ha of irrigated annual pasture each year, a total of 330ha)*

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* 9. How many head of beef cattle do you run?

- ◯ <100
- ◯ 100 - 250
- ◯ 250 - 450
- ◯ 450 - 650
- ◯ 650 - 1000
- ◯ 1000-2000
- ◯ >2000

* 10. How would you best describe your beef business? (Select more than one option if required)

- ☐ Breeding
- ☐ Trading
- ☐ Finishing

11. What is your average beef stocking rate in DSE/ha?

* 12. Do you have irrigation on your property?

- ◯ Yes
- ◯ No

Tasmanian Beef Pasture Feedbase Online Survey

Irrigation

13. How many hectares do you have under irrigation?

- ◯ <50ha
- ◯ 50 - 100 ha
- ◯ 100-200ha
- ◯ >200ha
- ◯ No irrigation

14. How many hectares of **pasture** do you have under irrigation in any one year period?

- ◯ <50ha
- ◯ 50 - 100 ha
- ◯ 100-200ha
- ◯ >200ha
- ◯ No irrigation

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15. What is the role of pasture species on your irrigated areas? (please select more than one option is applicable)

- [ ] Cover crop in the rotation
- [ ] Grazing
- [ ] Other (please specify)

16. What are the main pasture species grown on**irrigated** areas? (Select more than one option is applicable)

- [ ] Perennial Ryegrass
- [ ] Annual Ryegrass
- [ ] Clover
- [ ] Fescue
- [ ] Cocksfoot
- [ ] Other (please specify)

17. How do you determine when to irrigate a pasture? (select more than one option if applicable)

- [ ] Water balance/schedule
- [ ] Visual assessment
- [ ] Moisture meter
- [ ] Other (please specify)

Tasmanian Beef Pasture Feedbase Online Survey

Pasture Species and Varieties

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* 18. Please select the main **improved** pasture species on **dryland** areas your property

- [ ] Ryegrass
- [ ] Clover
- [ ] Fescue
- [ ] Cocksfoot
- [ ] Phalaris
- [ ] Other (please specify)

* 19. Please rate the importance of following attributes when selecting a pasture varieties for your property

	Low	Medium	High	Very High
Establishment	○	○	○	○
Production	○	○	○	○
Quality	○	○	○	○
Persistence	○	○	○	○

Other (please specify)

* 20. Please rate the importance of the legume (e.g. clover, medic) component of your pasture to your beef production system from 1. Low to 5. High

☆ ☆ ☆ ☆ ☆

* 21. How many hectares of your property are unimproved native pasture?

- ○ <50
- ○ 50-100ha
- ○ 100-300ha
- ○ >300

* 22. Have you sown newer pasture varieties on your property? (Defined as varieties that were not previously grown on your property)

- ○ Yes
- ○ No

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* 23. How have you found the performance of newer pasture varieties on your property?

* 24. Who do you source your advice on pasture species from?

- [ ] Sales Agronomists
- [ ] Seed Companies
- [ ] Independent Advisors
- [ ] Other Farmers
- [ ] Other (please specify)

Tasmanian Beef Pasture Feedbase Online Survey

Pasture Renovation

* 25. How many soil tests have you taken on pasture paddocks in the past 5 years?

- ◯ <5
- ◯ 5 - 10
- ◯ 10-15
- ◯ 15+

* 26. When was the last time you renovated a pasture?

- ◯ In the past 12 months
- ◯ In the past 5 years
- ◯ More than 5 years ago
- ◯ Never

27. If you have not renovated in **more than 5 years,** what is the reason for this decision?

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* 28. How many hectares have you renovated in the past 5 years?

- ◯ None - No renovation
- ◯ <50ha
- ◯ 50-100ha
- ◯ 100-300ha
- ◯ >300ha

* 29. What challenges are you facing when it comes to renovating pastures? Rate the constraints from not significant to very significant

	Not significant	Significant	Very significant
Cost	◯	◯	◯
Pest and Disease Pressure	◯	◯	◯
Persistance Concerns	◯	◯	◯

Other (please specify)

Tasmanian Beef Pasture Feedbase Online Survey

Grazing Management

* 30. What **best** describes your grazing strategy?

- ◯ Rotational
- ◯ Set Stocked/Continuous

* 31. How do you measure pasture growth rates?

- ☐ Leaf Emergence Rates
- ☐ Pasture Ruler/ Plate Meter/ Pasture Stick /
- ☐ Visual Assessment
- ☐ Satellite Imagery (Pastures from Space)
- ☐ Other (please specify)

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* 32. How do you measure pasture Feed on Offer (FOO)?

- [ ] Pasture Ruler or Pasture Stick
- [ ] Visual assessment or 'photo standards' of FOO
- [ ] Plate Meter
- [ ] Dry Matter Cuts
- [ ] Other (please specify)

* 33. How do you determine the type and amount of fertiliser to apply? (Select more than one if applicable)

- [ ] Nutrient schedule based on stocking rates, soil tests and past applications
- [ ] Per agronomist recommendation
- [ ] Apply standard rates rountinely
- [ ] Other (please specify)

* 34. If you rotationally graze, what is the trigger for moving stock to another paddock? (For example, feed on offer, animal performance, ground cover)

* 35. How often do you test the quality of your pasture, hay, silage or grain?

- ○ Never
- ○ Sometimes
- ○ Regulary

* 36. How do you determine how much feed you may need to buy in or conserve (silage, grain, hay)?

Tasmanian Beef Pasture Feedbase Online Survey

Tools and Extension

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* 37. What pasture-focussed courses have you previously participated in?

- [ ] ProGraze
- [ ] More Beef from Pastures / Making More From Sheep
- [ ] TIA Grazing Courses
- [ ] Pasture Principles
- [ ] Other (please specify)

* 38. Please select the apps/software/sources you **regularly** use for pasture decision making

- [ ] Stocktake Plus
- [ ] MLA Feed Demand Calculator
- [ ] Weather Apps (Weatherzone, Elders Weather etc)
- [ ] MLA Rainfall to Pasture Growth Outlook Tool
- [ ] Sense-T Pasture Predictor
- [ ] The Yield App
- [ ] Drought Feed Calculator
- [ ] Other (please specify)

* 39. Where do you source your pasture related information from?

- [ ] Online
- [ ] Other Producers
- [ ] Agronomists/Advisors
- [ ] Newspaper
- [ ] Radio
- [ ] Other (please specify)

* 40. Are there any pasture-focussed topics or potential areas that you feel need to be investigated further? or that you require more information on?

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41. If you would like to receive a copy of the final report for this survey, please provide your email address below.

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This proposal has been prepared by:

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Document review and authorisation

Job Number: 81-T-02

Doc Version	Final/Draft	Date	Author	Reviewed by	Quality checked	Release approved by	Issued to
1.0	Draft	15/12/17	E. Egan	D. Blaesing			
2.0	Final	22/12/17	E. Egan	D. Blaesing	P. Mawson	D. Blaesing	Tasmanian Beef Industry (R&D) Trust