SA Drought Hub Technical Report

Containment Feeding to Boost Business Resilience and Performance

PROJECT LEAD: SA Drought Hub

PREPARED BY: Dr Penny Schulz

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SA DROUGHT HUB

THE UNIVERSITY of ADELAIDE

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PROJECT SUMMARY

This project aimed to boost the adoption of containment feeding practices, through the development of resources and capacity building of advisors to support the design, planning, implementation, and adoption of best practices. The project involved establishing regional expertise through knowledge sharing and training for advisors. Adoption was achieved through small producer learning group sessions with follow-up coaching from advisors.

Containment feeding of livestock is a proven practice that allows improved protection of soils, waterways and pasture survival during drought and times of feed shortage. Containment feeding can enable strategic feeding of livestock to improve productivity and welfare outcomes, best position paddock feed to recover post-drought, maintain or improve groundcover, and potentially increase annual stocking rates.

The Containment Feeding to Boost the Performance and Resilience of Sheep Enterprises project led by the SA Drought Hub Livestock Technical Specialist Adoption Officer, has now trained 15 advisors, reached over 50 producers in five small workshops by the 5 trained SA based advisors, and provided implementation support to 50 SA producers.

Legacy project resources have been developed including a thorough producer resource guide and ration calculator. The SA Drought Hub will continue collaborative projects focused on successful implementation of containment feeding within grazing enterprises.

EXECUTIVE SUMMARY

Containment feeding of livestock is a proven practice that allows improved protection of soils, waterways and pasture survival during drought and times of feed shortage. Containment feeding can enable strategic feeding of livestock to improve productivity and welfare outcomes, best position paddock feed to recover post-drought, maintain or improve groundcover, and potentially increase annual stocking rates. However, there are few containment feeding systems integrated into farming businesses in South Australia, especially when it is commonly quoted by farmers and advisors as a valuable practice to build drought and business resilience. It is evident there are barriers to adoption that have not been adequately addressed by previous containment or confinement feeding projects. These have centred on skilled and confident advisors and comprehensive resources.

This project helped accelerate the adoption of containment systems on farms by training and assembling a network of containment adoption advisors, connected to farming systems groups and working directly with livestock producers. The project centred on a combination of workshops, training courses and targeted 1 on 1 advice so farmers were supported in the planning, implementation and operation of containment systems that are appropriate to their farming operation.

A principal aspect to this project was the project partnership with key livestock consultants, who were sought and contracted for their expertise. Deb Scammell, Talking Livestock, was enlisted to develop and deliver the advisor training, producer resources and provide coaching support to the trained advisor network through the delivery of the producer pilot program. Cam Nicholson, Nicon Rural Services, provided specialist input into the development and delivery of the pilot project, including decision-making pathways and risk assessment tools, development an enhanced ration formulation tool and online training. While Penny Schulz, SA Drought Hub livestock technical specialist, coordinated the project and provided extension and adoption resources and support to the advisors, as well as supporting farming systems groups to deliver the pilot project in their regions. Penny also liaised with other Hubs to support delivery of the program beyond South Australia.

Importantly, the project trained consultants and advisors in containment feeding and supported their development through coaching from technical specialists thus forming a containment advisory network in the process. Five farming systems groups (MFMG, AgKI, UNFS, BIGG and AIREP) were engaged within Train the Trainer workshops and other extension activities.

Key Project Achievements

The project has achieved its intended objectives, while also widening the advisor capacity building opportunities for those outside of South Australia and has also been a catalyst for further producer-focused projects in feedbase, fodder conservation and decision-making. Key project achievements include-

- The development and delivery of an advisor capacity building program focused on best practice containment feeding practices, including a 2-day train-the-trainer event with a field trip, and a follow-up advisor masterclass focused on containment feeding decision making.

- The development of a well-informed containment feeding course, delivered to 50 producers in South Australia, with customised containment design and adoption plans for each enterprise.
- Each participating producer had the opportunity to work with a trained advisor on-farm to develop a customised implementation plan for their sheep enterprise, to support best practice adoption. This resulted in newly established or improved containment feeding sites across the project area in SA with the collaborating farming systems groups.
- A newly developed Ration App to be used by both advisors and producers to simplify ration creation, meeting nutritional requirements and decision-making support for retaining and feeding specific cohorts of sheep. The Ration App has been developed with advisors trained in the project.
- A comprehensive Producer Resource Guide for sheep containment feeding has been developed and includes nutritional and health related information, pen setup, design, water infrastructure and decision pathways. The containment feeding related decision-making are supported by a comprehensive decision tree, decision matrices and trigger point information.
- There is a comprehensive repository at *Containment feeding to boost business performance and resilience - SA Drought Hub* - SA Drought Hub which contains all the resources including the guide, podcasts, case study and contacts for further support.
- A newly trained and networked containment feeding adoption advisors across Southern Australia, who can provide ongoing support and service to farmers beyond this project. This expertise sits within or is connected to farming systems groups. Additionally, the project has extended its across southern Australia by enabling other Drought Hubs to become involved in the advisor training. Overall, 15 advisors have been trained across southern Australia including 5 in SA. Importantly, the SA based advisors have received additional expert coaching in working with producers on containment feeding

The comprehensive Producer Resource Guide and Ration calculator have also been complemented with a case study, podcasts, media items and conference presentations, which are widely available. These resources continue to be accessed and utilised, particularly during current drought conditions.

Overall, this project has led to measurable on-farm adoption of containment feeding, increased confidence of advisors in SA and delivered high quality training material. Ongoing initiatives following this project are occurring.

PROJECT BACKGROUND AND OBJECTIVES

Project Background

It is important to recognise this project originated from a large, cross-Hub, Future Drought Fund - Extension & Adoption (E&A) of Drought Resilience Farming Practices proposal. This project proposal aspired to address the lack of adoption of best practice containment feeding practices, the lack of resources available, and to build the capacity of advisors to support the design, planning, implementation, and adoption of best practices. The original proposal spanned southern NSW, Victoria, Tasmania, and South Australia, with a significant amount of funding required to deliver, but was unfortunately not successful in attaining the E&A grant.

During the project development phase, South Australia gained support and funding for the project through the SA Sheep Industry Fund (SIF). The SIF funding enabled an SA-based version of the project if the E&A grant was not successful, on the proviso the SA Drought Hub co-invested. However, it was evident there was still a need for this program of work in the regions identified in the cross-Hub proposal.

Through on-going discussions, it was agreed the Hubs and farming system groups would continue to work together to develop resources, build the capacity of advisors to support producers, and rollout a pilot program with small groups of producers who will work with the trained network of advisors. The trained advisors would work to upskill producers and support them to implement the containment feeding system best suited to the farm and farmer.

Project Overview

It has been established through previous containment feeding projects led by farming systems groups that the inclusion of containment feeding in livestock enterprises can lead to improved productivity, improved reproductive performance, enhanced landscape and pasture management, greater drought resilience and increases in profitability. However, there are few containment feeding systems integrated into farming businesses in Southern Australia, especially when it is commonly quoted by farmers and advisors as a valuable practice to build drought and business resilience. It is evident there are barriers to adoption that have not been adequately addressed by previous containment or confinement feeding projects (*Business case for investment in the adoption of stock containment feeding areas*, Riverine Plains 2022).

This project aims to boost the adoption of containment systems on farms by training and assembling a network of containment adoption advisors, connected to farming systems groups working directly with livestock producers. The project will train advisors, develop learning resources, conduct small group producer workshops, and provide 1 on 1 advice so farmers are supported in the planning, implementation and operation of containment systems that are appropriate to their farming operation. The project will also be tailored to regions, as well as individual farm businesses, to cater for those at different stages of adoption. For example, to support those just starting their containment feeding journey to those who wish to optimise and enhance their containment feeding systems. The newly trained containment feeding adoption advisors will also be supported by coaching from a technical specialist (who will be delivering the trainer training) and be part of a containment advisory network in the process.

The project will involve establishing regional expertise through knowledge sharing and training for advisors. Adoption will be facilitated through small producer learning group sessions with follow-up coaching from advisors where they will be supported in the implementation of best practice sheep containment feeding practices. Thorough resources will underpin process.

This is currently a 1-year project but is effectively an extension and adoption pilot program for containment feeding in the sheep industry of Southern Australia. Due to the pilot nature of the program, it is expected that advisor and producer participants will be aware of the project imperfections and provide input and iterative feedback throughout the process. There is significant potential to be extended for a further 12 months, and/or provide opportunity for a proven supported learning program (dependent on future funding), complemented by the trained, networked, and experienced advisors, to continue to support the implementation of new or improved containment feeding systems. There is also potential to widen the containment feeding learning program to southern beef production systems.

Aims

The original cross-Hub project proposal (not successfully funded) aimed to achieve the following:

- Create a network of 17 upskilled containment adoption experts across Southern Australia who would deliver at least one containment feeding course in the time of the pilot project.
- Deliver a well-informed containment feeding course, with ongoing custodianship after the project finishes provided by Hubs or industry organisation. The network of trained advisors will have the capacity to provide ongoing (cost recovery) service to farmers after the project is completed.
- Build producer skill, knowledge and support the implementation of best practice sheep containment feeding practices in Southern Australia (50-60 producers to participate in pilot program in SA).
- A central information repository, with the latest containment information available through Drought and Innovation hub websites. This central hub of information will be available to all producers. This can also be freely utilised by other organisations.
- New tools and processes including decision pathways, satellite groundcover monitoring (accessed through the *MyFarm* Dashboard). These tools will be available to all producers, particularly those trained through the course, and elements of these innovations will be led by SA experts.
- This project aims to build producer skill, knowledge and support the implementation of best practice sheep containment feeding practices in South Australia. The inclusion of containment feeding in sheep enterprises can lead to improved productivity, improved reproductive performance, enhanced landscape and pasture management, greater drought resilience and increases in profitability.

Despite the E&A grant application not being successful, the pared back version of the project worked to achieve as many of the original aims as possible, dependent on regional funding and availability of resources. While the overarching aims of the project remain unchanged, greatly reduced funding inhibited the ability to train the intended number of advisors, reach the number of producers and build the central resource hub.

Project Outcomes

The project has achieved all of the target outcomes. Each outcome in the project plan is accompanied by a description of the achievement/outcome in italics.

- A well-informed containment feeding course, delivered to producers, with customised containment design and adoption plans for each enterprise.

    - *The containment feeding training has been provided to 50 producers in small group workshop settings with adoption plans developed and implemented for 40 enterprises.*
- Newly established or significantly improved containment feeding sites across the project area.
    - *The project has achieved successful adoption of containment feeding across key sheep production regions in SA corresponding with the collaborating farming systems groups.*
- A newly developed Ration App to be used by both advisors and producers to simplify ration creation and meeting nutritional requirements.
    - *A Ration App has been developed with advisors trained and equipped to work directly with producers.*
- New tools and processes including decision pathways, satellite groundcover monitoring (accessed through the *MyFarm* Dashboard). These tools will be available to all producers, particularly those trained through the course.
    - *The Producer Resource Guide that has been developed has comprehensive decision pathways for decisions including a comprehensive decision tree (do I sell or retain the sheep?, do I feed in the paddock or put into containment?). These decisions are supported by decision matrices and trigger point information.*
- A central information repository, with the latest containment information and available to all producers. This can also be freely utilised by other organisations.
    - *There is a comprehensive repository at Containment feeding to boost business performance and resilience - SA Drought Hub which contains all the resources including the guide, podcasts, case study and contacts for further support.*
- Newly trained and networked containment adoption advisors across Southern Australia who will provide ongoing (cost recovery) service to farmers after the project is completed. This expertise will sit within or be connected to farming systems groups.
    - *The project has extended its across southern Australia by enabling other Drought Hubs to become involved in the advisor training. Overall, 15 advisors have been trained across southern Australia including 5 in SA. Importantly, the SA based advisors have received additional expert coaching in working with producers on containment feeding. The evaluation scores previously outlined show the impact.*

The benefits from this project include protection of soils, vegetation, and riparian zones across the landscape, and the industry benefits by quicker recovery after drought. This relates to both having the livestock available for sale or breeding (rather than having to purchase new stock) and reducing the need for resowing pastures that have failed to persist.

A second industry benefit is the continued use of the facility in non-drought periods. There is growing evidence of farmers using these facilities (because they now have them constructed) to realise other opportunities (such as meeting condition score targets or finishing lambs with low-cost grain). This boosts overall farm and industry profitability.

A third and valuable industry benefit has been building upon the outcomes from recently completed and highly regarded Producer Demonstration Site project – *Increasing Production Using Containment Feeding* – run by Talking Livestock (Deb Scammell) through the Barossa Improvement Grazing Group (BIGG). This project also addressed the significant and verified adoption gaps identified in the report

Business case for investment in the adoption of stock containment feeding areas, a project completed by Riverine Plains in 2022, funding by the Future Drought Fund.

METHODOLOGY

Key Personnel

Key personnel were sought and contracted for their expertise, with all involved in this project also key personnel involved in the development of the larger E&A Grant proposal that was not successful in attaining funds.

- Deb Scammell, Talking Livestock, was enlisted to develop and deliver the advisor training, producer resources and provide coaching support to the trained advisor network through the delivery of the producer pilot program.
- Penny Schulz, SA Drought Hub, coordinated the project, providing extension and adoption resources and support to the advisors, as well as supporting farming systems groups to deliver the pilot project in their regions. Penny also liaised with other Hubs to support delivery of the program beyond South Australia.
- Cam Nicholson, Nicon Rural Services, provided specialist input into the development and delivery of the pilot project, including decision-making pathways and risk assessment tools, development an enhanced ration formulation tool and online training.

Farming Systems Groups

Farming systems groups were contacted regarding the project during project development phase and their subsequent involvement in the project was based on their interest and capacity. Each interested farming systems group nominated an advisor (or advisors) to be their connected advisor for the pilot program. These advisors participated in a train-the-trainer event and were provided with resources and delivery materials. Farming systems groups and the project coordinator helped with the recruitment of producers suitable for the containment feeding pilot program.

Advisors

It was expected that each advisor trained through the project's train-the-trainer event would deliver one 1-day workshop to a small group of producers (8-12 producers) based on the learning content provided through the advisor training. A producer resource guide and presentation slide deck tailored to the producer workshop was provided post-advisor training, along with a delivery format guide.

Following the 1-day small group workshop, advisors worked one-on-one with each of the producers in the group to create and support the planning, design and implementation of a containment feeding setup best suited to the farmer, sheep enterprise and farming environment. An implementation plan guide and decision-making process was provided post advisor training. Producer participant feedback was sought at the beginning of the delivery process and after the follow up workshop.

Producers

Containment Feeding pilot workshops were to be promoted by farming systems groups involved in the project, with a flyer templates and promotional content suitable for communication channels provided by the project lead. Participating producers were to attend a 1-day workshop delivered by a trained advisor, which involved peer-to-peer learning and technical content. Each participant then

had the opportunity to work with the advisor on-farm to work through the containment feeding decision making process and then plan and design an appropriate setup for their sheep enterprise, including an implementation plan. Producers also participated in a shorter, follow up workshop to see what worked well and what did not in terms of containment feeding, and if their implementation plan had been enacted.

Timeline

This project was to be delivered over a 12-month period, with the potential for a further 12 months of project duration if funding allowed and the initial project application success. The original project timeline was 1st July 2023 – 30th June 2024 but due to some contracting delays, the project completion date was rescheduled for December 2024.

LOCATION

Where demonstration sites, field trials, events or other activities have been conducted, provide the following location details in the table below: latitude and longitude for field trials, or LGA for events and other activities. (Add additional rows as required.)

Site # and name	Latitude (decimal degrees)	Longitude (decimal degrees)	LGA
Trial Site #1 / name			
Trial Site #2			

RESULTS

Farming Systems Groups and Producer Engagement

- In South Australia, six farming systems groups showed early interest in participating in the pilot program (AGKI, MFMG, MSF, UNFS, AIREP and BIGG). Four farming systems groups remained highly engaged in the project, with six trained advisors from SA connected to these four groups (AGKI, MFMG, MSF, BIGG and UNFS), with one of the six advisors being an intern consultant with MFMG. AIREP also remained connected to the project in a limited capacity due to not being able to gauge interest from their livestock producer members or connect with a suitable advisor.
- Four farming systems groups continued their engagement with the project and delivered a total of five small producer group workshops to more than 50 producers, with follow up on-farm visits by the trained advisors and also a follow up workshop.
- Kangaroos Island (AGKI) showed considerable interest in this project but due to difficulties with their trained advisor they were unable to host a pilot group. As already mentioned, Eyre Peninsula (AIREP) also showed early interest in this project and there may still be scope to deliver a pilot group in the future or be involved in follow-on projects.

Advisors

- An advisor-focused containment feeding learning module and resource guide was developed, which was used to support the delivery of a 2-day advisor training event in the Barossa Valley to 15 advisors from across Southern Australia (from an initial 16 advisors registered for the training). Each advisor was connected to a farming systems group or Hub. Six advisors were from South Australia, including one livestock consultant intern, with 10 advisors registered from Southern Farming Systems, Riverine Plains, and Tasmanian Drought & Innovation Hub.
- A documented decision-making processes and risk assessment tool was specifically designed for containment feeding practices and tailored to individual farmer and farm business requirements.
- An implementation plan guide for advisors to utilise when working one-on-one with producer participants.
- Advisors had access to a newly developed Producer Resource Guide and presentation slide deck tailored to the producer workshop, together with a delivery format guide for the producer workshop.
- An additional 2-hour online training session for the advisors focused on decision making processes and containment feeding was held as a follow up activity shortly after the advisor training event. This was developed and delivered by Cam Nicholson and was additional to the original delivery plan.

- Advisors were able to utilise the newly developed Ration App spreadsheet tool to be used by both advisors and producers to simplify ration creation, meeting nutritional requirements and containment feeding decision support.
- Advisors were provided technical coaching as they moved into the producer delivery phase of the project experts in the delivery phase.
- Advisor check-in sessions were held online through the delivery phase to support a community of practice, with a number of advisors reaching out to each other during this time and beyond the project.

An overview of the South Australian participation of farming systems groups and producer engagement can be found in Table 1, including the number of producers attending workshops, how many follow up visits occurred, and the implementation plans delivered. It is important to note that not all producers who attended the initial workshops were able to be visited for their individual follow up, and one producer did sell their farm during the project delivery, resulting in less plans delivered than original attendees.

Table 1. South Australian participation in the Containment Feeding Project

Farming Systems Group	Advisor(s) trained	Producer Groups with workshop and follow up	Workshop attendees	Follow Up Visits (implementation plans delivered)
Mackillop Farm Management Group	Ashlee Wachtel, Nathanial Modra, Indi (intern consultant)	2	15	14 (14)
Mallee Sustainable Farming Systems	Nick Paltridge	1	15	15 (10)
AgKI	Lyn Dohlie	0	0	0
Upper North Farming Systems	Jane Hancock	1	14	8 (6)
Barossa Improved Grazing Group	Deb Scammell (part of the technical expertise delivery team)	1	8	8 (8)
		5	**52**	**45 (38)**

Resources - Project resources can be found in the Drought Resilience Tools and Products table.

CONCLUSION

The Containment Feeding to Boost the Performance and Resilience of Sheep Enterprises project led by the SA Drought Hub Livestock Technical Specialist Adoption Officer, has now trained 15 advisors, reached over 50 producers in five small workshops by the 5 trained SA based advisors and provided implementation support to 40 SA producers.

Containment feeding of livestock is a proven practice that allows improved protection of soils, waterways and pasture survival during drought and times of feed shortage. Containment feeding can enable strategic feeding of livestock to improve productivity and welfare outcomes, best position paddock feed to recover post-drought, maintain or improve groundcover, and potentially increase annual stocking rates. However, prior to the project containment feeding systems integrated into sheep enterprises was not common, despite being commonly quoted by farmers and advisors as a valuable practice to build drought and business resilience. It was evident there are barriers to adoption that have not been adequately addressed by previous containment or confinement feeding projects.

This project helped accelerate the adoption of containment systems on farms by training and assembling a network of containment adoption advisors, connected to farming systems groups and working directly with livestock producers. The project centred on a combination of workshops, training courses and targeted 1 on 1 advice so farmers were supported in the planning, implementation and operation of containment systems that are appropriate to their farming operation.

Importantly, the project trained consultants and advisors in containment feeding and supported their development through coaching from technical specialists thus forming a containment advisory network in the process. Five farming systems groups (MFMG, AgKI, UNFS, BIGG and AIREP) were engaged within Train the Trainer workshops and other extension activities.

A comprehensive producer resource guide, ration calculator, case study, podcasts and videos have been developed and are widely available. These resources continue to be accessed and utilised, particularly during current drought conditions.

Overall, this project has led to measurable on-farm adoption of containment feeding, increased confidence of advisors in SA and delivered high quality training material. A follow-on project, *Enhanced Livestock Management*, has been developed and recently launched, to be build on the containment feeding project with the inclusion of feedbase management, fodder conservation and decision-making.

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