

Successful Research with Local Farmers to Improve Native Grasslands

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A three-year project, the *Impact of Grazing Management on Native Grasses of Non-Arable Pastures in the Mid-North of South Australia*, was initiated by the farmer-led organisation *Mid-North Grasslands Working Group*. The project objectives were determined at a meeting of all stakeholders, and included demonstration that appropriate grazing management could allow native pastures to be grazed for production and result in improved conservation of native grasslands. Subsequent discussions with the farmers who managed the seven demonstration sites established to achieve this objective highlighted that their key objective was to increase production and, more importantly, profitability. The emergence of this previously undisclosed project objective resulted in the project consultants assigning grassland productivity as the focus and native perenniality as an incidental, but equal value, objective. Four elements were used in the conduct of the project: local and credible farmers committed to the project goals, capital support to facilitate change, technical expertise, and on-ground demonstration.



Introduction

Most grasslands in the mid-north of South Australia have been managed conservatively over at least the past few decades, and in many instances, soil conservation has been a primary goal. Paradoxically, this management regimen has created less stable herbaceous communities dominated by introduced, annual grasses, often at the expense of native, perennial grasses. The changes in vegetation composition are profound and are represented across vast areas in the mid-north of South Australia and yet are incidental outcomes of land and stock management. Recognizing that incidental outcomes of management regimens can have substantial on-ground impact is the key to increasing native perenniality in these grasslands, but this process must be farmer-driven.

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A traditional approach to increasing native perenniality and stability in grasslands is to gather the results of replicated, quantitative research to develop programs that extend this knowledge to industry leaders, innovators and early adopters, and to wait for the trickle down effect. Remaining focused at all times on the goal of increasing native perenniality is essential.

An alternative approach, and one the authors have used in the project described in this paper, is to promulgate strategies that address the primary concerns of farmers but also deliver the incidental benefit of increased perenniality. The challenge to consultants and extension personnel is to devise such win-win strategies in partnership with farmers.

The three-year project, from which this paper is drawn, was titled the *Impact of Grazing Management on Native Grasses of Non-Arable Pastures in the Mid-North of South Australia*, and was funded by the *Natural Heritage Trust*. The project was initiated by the farmer organisation *Mid-North Grasslands Working Group*, who engaged the consultancy services of *Agricultural Information & Monitoring Services*. The project objectives were established in a focus group meeting with potential stakeholders at the start of the project. The objectives relevant to this paper were: to demonstrate that appropriate grazing management can allow native pastures to be grazed for production and result in improved conservation of native grasslands; and to establish grazing demonstration sites on seven farms in the mid-north of South Australia.

Four elements were used in the operation of the project: local and credible farmers committed to the project goals, capital support to facilitate change, technical expertise, and on-ground demonstration. These elements are discussed in this paper.

Local and credible farmers

Farmers place a large emphasis on their peers as a source of new information and practices. There is merit in this approach because it provides the opportunity for farmers to evaluate a new technology in an environment that is commercially relevant and no risk. Because of this tendency to prioritise the knowledge of peers, programs driving a change in practice are ideally driven by farmers themselves.

During the 1990s, a group of farmers in the mid-north of South Australia developed the goal to demonstrate that grasslands could be better managed to improve both their conservation and profitability. These farmers formed the Mid-North Grasslands Working Group, co-opted state government representatives, and were successful in obtaining funding through the *Natural Heritage Trust* to tackle the issue of grassland management. The formation of the Mid-North Grasslands Working Group, under the guidance of local farmers, provided the project with credibility.

The value of the testimony and trust

The human component of any conservation or land management program is critical to its success, and yet is rarely discussed when projects are evaluated. The term 'human component' is used to describe the attributes and personalities of the individuals in the project. More often, the focus of evaluation is on numerical, physical outcomes - the number of trees planted, the kilometres of fencing, regeneration success, or number of people attending field days or seminars. The real success is in winning the hearts and minds of local land managers, and achieving long-term commitment to those important, on-ground outcomes. Achieving and measuring this type of success is not an easy task.

The most difficult part of any project is the selection of participating farmers. These farmers are future role models in the region and vital to establishing change in the wider community. Who is to be responsible for their selection? And how do these farmers contribute to the project outcomes and outputs? In terms of selection, a community-based person has both advantages and disadvantages. A major advantage is that community members understand families, family support, and existing social diversity (Vanclay 2004), and these are key elements in determining long-term commitment to projects. A potential disadvantage is exposure to unfair and unwarranted, local prejudices.

With the *Natural Heritage Trust* project, seven properties were selected to act as demonstration sites for rotational grazing management. The seven farmers associated with the properties ranged in age from 28 to 60 years, and were mostly considered to be open-minded and highly regarded in the district.

After three years, the oldest farmer, who initially appeared to be the least likely to succeed, was the most successful participant, whereas one of the youngest farmers had achieved little improvement in either his grassland or his management practices. The key attributes of the most successful participant were the individual's

willingness to learn, the enthusiasm with which he embraced the concept, and his ability to recognise and develop on-ground success. The lowest achiever battled with older generation persons who, although not directly involved with the management of his land, managed to reduce his trust in the trialled system enough to prevent real change. The basis for the loss of trust was not determined but may have arisen from misplaced advice.

The successful farmers have all developed skills beyond those required for the *Natural Heritage Trust* project. They have also facilitated future project directions and research priorities by highlighting 'weak links' in local management systems (Petheram and Clark 1998). Additionally, these farmers are ambassadors or mentors in the wider community as neighbours and other farmers seek their opinion on the project merit.

Trust underpins the success of the project. It is necessary between project personnel, by farmers in the technical expertise of the consultants, and by the consultants in the farmers' management. However, trust is developed through an iterative process based on technical and moral support, and through accumulated experience. Once established, trust between participants allows the envelope of future possibilities to be more fully explored.

Setting project goals and objectives

Once participating farmers have joined the project, a key issue is that of defining project goals and objectives. It is the goals and objectives against which the success of the project will ultimately be measured. The importance of establishing these goals prior to the start of a project cannot be overstated. This is the opportunity for resolving mutually exclusive goals and identifying the relative importance of project goals with participants.

In the Mid-North Grasslands Working Group, a key, agreed project objective was to improve the management of native grasslands and thereby increase the contribution of native perennial grasses. Yet, subsequent discussions highlighted that, for many farmers, their key objective was to increase production and, more importantly, profitability. As consultants to the project, we decided to make 'perenniality' an incidental goal when discussing the project with participating farmers. An incidental goal is one that is achieved in the process of achieving another goal. Assigning a goal to be of incidental nature should not reduce the importance of this outcome and it may limit some management options. For example, in this project, fertiliser was not evaluated because it was considered that it would advantage introduced, annual grasses at the expense of native, perennial grasses.

In the early years of the project, this approach enabled the development of trust between the parties, and it is fair to say that farmers focused largely on production outcomes. However, over time, these farmers recognised the value of the incidental outcomes as drivers of increased productivity. That farmers were allowed to make the link between perenniality and productivity themselves, and in the context of their farming situation (Petheram and Clark 1998), ensured a genuine understanding of the principles of pasture management.

Capital support

Prior to the development of trust and the emergence of project ambassadors, a major barrier for change is the funding of capital works. Financial incentives, even though they are often viewed as inadequate, provide the catalyst that is needed to overcome any inertia preventing the realisation of ideas. In grassland management, as in most other walks of life, access to finances controls what is possible.

The authors' experience is that financial support needs to be at arms length from 'the government'. For a variety of reasons, many farmers are very wary of accepting funding from a government source, as they have a suspicion that it means 'the government' will have some control over what they do on their farms. For a local person working with a community group and understanding the local social issues, that barrier is usually surmountable.

Technical expertise

Technical personnel are a key part in developing new management approaches but, to foster long-term ownership among participating farmers, these personnel should not assume the responsibility of success or failure of participating farmers. The process to achieve long-term ownership relies on the provision of principles and not recipes. Farmers must be allowed to take 'plastic principles' and adapt these to their own situations. The term 'plastic principle' is used to convey the understanding that principles form the core of many practices and, as such, they need to be plastic in nature to adapt to a variety of needs and situations. However, once on-farm management practices have been devised, there is no replacement for being able to present and discuss local data collected from specific farms over a specified period.

Farms are complex organisations, and their custodians (i.e. farmers) seldom reveal the full extent of this complexity until trust in the technical experts or consultants has been established. The process of building

trust and understanding a complex system involves repeated, social interactions. Understanding the complexity of the physical and social environment is an important role of the consultant. Without this understanding, it is difficult for the farmer and consultant to interact in a meaningful way to develop new management approaches.

On-ground demonstration

The final element of change is the on-ground demonstration of new management regimens. For example, in this project, large paddocks (200-300 ha) were fenced into smaller (10-50 ha) paddocks and water was piped to troughs in each paddock. The initial cost of this development was \$100 - \$200/ha, depending on topography and access to water. The purpose of this subdivision was to better control the grazing process, by managing periods of grazing and then recovery in response to plant growth rate. These demonstrations highlighted that rotational grazing increased pasture growth rate by 26 per cent and stocking rates by 47 per cent, while also improving the health of native grasses. That these demonstrations were located on commercial farms rather than state research stations better allowed farmers to integrate knowledge into their own farming practices. A key part of the demonstrations is the need to be commercial in scale to gain credibility to the farmers, and to provide a meaningful context for information.

Conclusion

Farming communities are willing to play an active role in research if the research process allows these communities to address relevant issues. However, success will be restricted largely to dealing with immediate and local goals. Our approach encourages technical experts to devise ways which address the immediate objectives of individual farmers while delivering incidental project benefits. This approach, used in the *Natural Heritage Trust* project from which this paper is drawn, has strengthened the chance of long-term success and community ownership in the project region.

References

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