

On-property research and strong relationships result in practice change that increases land condition and carrying capacity in Western Queensland

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Introduction

Land condition has declined across large areas of Northern Australia due to inappropriate grazing practices. Despite extensive extension efforts, adoption of improved practices such as wet season spelling and matching stocking rates to available forage has not been universal. This case study demonstrates how on-property research combined with extension has driven practice change on a property near Jericho in Western Queensland.

Methods

The 'Developing long-term carrying capacity models for the Desert Uplands (DU)' project ran from 2003 to 2005 and aimed to reduce land condition decline by establishing the long-term carrying capacities (LTCC) for DU land types (Jones et al. 2006) based on modelled estimates and grazer experiences. Nine properties were established as calibration sites to monitor land condition, stocking rates and pasture production. Host landholders were also facilitated as a peer-peer learning group, the project leader (PJ) maintained contact with the group for the following 19 years helping members implement the project's recommendations. In 2023, the original monitoring sites on the case study property near Jericho were revisited to assess land condition and interview the landholder to document changes in management practice over the previous 20 years.

Results

Results of the interview showed that the landholder had implemented a range of improved practices including rotational grazing, wet season spelling, fencing to land type, and stocking around LTCC. The property had also doubled the number of paddocks and increased the number of watering points. As a result, carrying capacity had increased from 700 adult equivalents (AEs) in 2004 to 1,000 AEs in 2023. Land condition had been maintained over 20 years and had improved at some monitoring sites from C (poor) to B and from B to A condition, as shown by an increase in the presence of key perennial pasture species such as desert blue grass (*Bothriochloa ewartiana*). This improvement occurred despite the overall increase in property stocking rates.

Discussion and conclusion

Participation in the original LTCC project gave the landholder the knowledge and resources to implement new practices, positively impacting both land condition and productivity. Ongoing contact with the project leader over the last 20 years – and their successor (DW) – helped maintain these changes. These results demonstrate the long-term impact of on-farm research and extension and highlight the importance of strong relationships between agencies and producers.

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References

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