

A situation analysis of ley pasture utilisation in the Western Downs and Maranoa regions of S Queensland, Australia

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Introduction Previous studies have shown that the uptake of ley pasture systems in S Queensland's grain growing region has been slow when compared with mixed farming systems in S Australia. This is despite their demonstrated benefits to subsequent crops, livestock production and the environment. A survey was conducted that aimed to determine the level of utilisation of ley pastures in the Western Downs and Maranoa regions of S Queensland, and the possible constraints to their adoption, and benefits arising from their use. The survey also aimed to determine the commonly used pasture species, the reasons for their use and their contribution to the livestock component of mixed farms.

Materials and methods The survey was conducted in spring 2004 using a closed answer questionnaire. The target population was mixed farmers in 8 shires from the Western Downs and Maranoa regions of S Queensland. A stratified random sampling strategy was used. The target population was stratified by shires and the sample size in each shire was determined by proportional allocation. Initial telephone contact was made with the selected farmers to gain their consent to participate and the questionnaire was then posted to each participant. The survey had a 48% response rate, with 65 surveys completed correctly and returned.

Results Of mixed farmers surveyed, 66% integrate ley pastures into their farming systems, with 46% of these using 2 or more different ley pasture types. This is much higher than the level of adoption in 2002, estimated at 38% (Lawrence, 2002). On average 63, 48 and 38% of respondents who use ley pastures indicated that the unreliability of establishment, the cost of establishment and the lag time with no productivity from either crops or livestock when using ley pastures are problems. For non-adopters, these establishment factors are a major deterrent for not integrating ley pastures into their systems with 82 and 68% respectively seeing unreliability and cost as problems. The positive aspects of ley pastures such as their ability to improve livestock growth rates and soil structure and increase soil nitrogen, grain yield and protein were readily agreed to by the majority of mixed farmers surveyed, with less than 5% disagreeing with these statements. In general, the age, gender or size of property owned did not significantly influence ($P < 0.05$) farmers' opinions on the benefits and problems associated with ley pastures. However, whether or not the mixed farmer had adopted the practice influenced some opinions (Table 1). A number of different ley pasture species are used in the region with lucerne

Table 1 Mean ratings of statements regarding ley pastures by adopters and non-adopters. Ratings are strongly agree (1), neutral (3) through to strongly disagree (5)

Statement	Adopters	Non-adopters
Helps meet target market specifications better*	2.35	2.75
The cost of establishment is too high	2.81	2.41
Leys do not increase livestock production*	4.33	3.50
The lag time with no production from crop or livestock is a problem	2.88	2.50
Allows spreading of risk between crop & grazing*	2.07	2.62
Leys are uneconomical*	3.76	3.11
Establishment of ley's is too unreliable*	2.62	2.10

*statements in which ratings differed significantly ($P < 0.05$) between adopters and non-adopters

(*Medicago sativa*) being the most common (41% of cases). In half of these cases, lucerne was grown with annual medics and/or tropical grasses. The ley pastures are used mainly for growing and fattening cattle. On most types of ley pastures grown cattle growth rates generally were between 0.5-1.0kg/hd/day, but sheep growth rates often were unknown.

Conclusions Ley pastures are used widely in the Western Downs and Maranoa regions of S Queensland. While adopters indicated problems with their use, they were very positive about the benefits. In contrast, non-adopters tended to be more negative about both the problems and benefits, indicating a need for further investigation.

References

Lawrence, D. (2002). Perceptions of Western Farming Systems project, how it has helped and how have farming practices changed since 1995? In: Western Farming Systems Results Booklet, Department of Primary Industries & Fisheries, Brisbane.