

Lucerne prospects



Drivers for widespread adoption of lucerne for profit and salinity management

In this publication we bring together existing knowledge about lucerne as a basis for spelling out its prospects as a profitable part of future farming systems. Concentrating on the mixed crop/livestock systems associated with the Australian 'wheatbelt', we also draw out the implications that are critical for many farmers - the role lucerne can play in managing dryland salinity and waterlogging.

The prospects for lucerne vary from region to region and then from farm to farm. But with economic analysis we can predict the optimum area of lucerne on a typical farm for representative agro-climatic regions. We also show the relative sensitivity of the profit predictions, region by region, to variations in the area under lucerne.

Each regional analysis is supported with a farmer case study, illustrating how the modelled predictions align with reality.

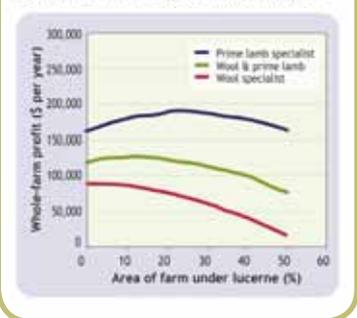
How Lucerne Prospects helps

Lucerne Prospects outlines the opportunities for profitable lucerne adoption in the wheatbelt of southern Australia to help manage dryland salinity. It covers:

- the attributes of lucerne that make it the most widely-grown herbaceous perennial suitable for mixed farming systems in the wheatbelt
- the principles, practices and prospects involved in integrating lucerne with crops
- assessment of areas suitable for lucerne production
- a region-by-region evaluation of lucerne for the:
 - > Central Wheatbelt WA
 - > South West WA
 - > South Coast WA
 - > Wimmera/Mallee SA, Victoria and NSW
 - > Mid-north and Yorke Peninsula SA
 - > South-West Slopes NSW and Riverine Plains NSW and Victoria
 - > Central West NSW
- the extent to which global factors could influence uptake
- the prospects for improved cultivars for wider adaptation
- suggestions for further reading.



Optimum area of lucerne on a representative farm at Cunderdin varies with type of livestock enterprise



Lucerne – growing towards a sustainable future

Lucerne, one of the most nutritious pasture species available, is also one of the most economically attractive herbaceous perennials for the management of dryland salinity. It is suitable and widely adapted for use on mixed farms in the medium to high rainfall areas of the Australian wheatbelt, where it offers additional advantages for the control of herbicide-resistant weeds and provides resilience and diversity to mixed-farm enterprises.

As lucerne-based systems are almost 'leak-proof', the local impact on salinity and waterlogging can be immediate where large parts of the farm are planted.

And yet the current area under lucerne in Australia is only 3.2 million hectares, compared with the 30 Mha potentially suitable in the wheatbelt. Even given the economic constraints, it is realistic to expect that the area for adoption might readily be more than doubled. This prediction is supported by the significant recovery of commodity prices for livestock products, potential market demands for 'clean and green' and the need for more profitable enterprises with declining terms of trade for grain production.





Is it for me?

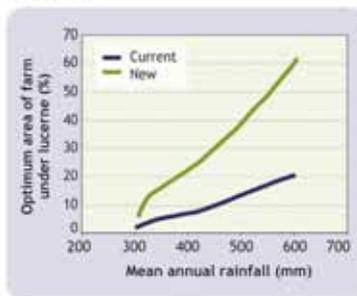
The best prospects for high percentages of the farm under lucerne are found in the medium to high rainfall agro-climatic zones, with a high percentage of suitable soils and with only minor technical constraints. Those who benefit most from the greater adoption of lucerne will be those who adapt their existing livestock systems to lucerne's specific grazing management requirements. Even in low rainfall regions lucerne provides an opportunity to reduce the level of risk associated with annual cropping systems.

Lucerne has been widely grown as a permanent pasture for many years, but by far its largest potential for expansion is its integration within a cropping rotation.

Integrating profitable lucerne-based livestock enterprises with crops involves meeting some challenges. These include:

- Maximising the use and benefits of the lucerne pasture phase to livestock enterprises
- Optimising the positive benefits flowing from the pasture phase to subsequent crops (for example, nitrogen fixation, weed and disease management)
- Managing the potential costs and impacts of lucerne on following crops (for example, effective establishment and removal strategies and competition for water)
- Managing additional workload and lifestyle preferences.

Optimum lucerne area for a mixed crop and livestock enterprise increases with rainfall. Modelled 'current' system (self-replacing ewe flock) compared with 'new' system (prime lamb production) and grass mixtures where applicable. Results from four regional whole-farm economics models in WA



Opportunities for further adoption of lucerne in the wheatbelt

Knowing and understanding lucerne's capabilities is important for maximising successful low risk investment opportunities and defining the target environments for which alternative options are required.

The extent to which perennials such as lucerne can reduce salinity and waterlogging, or even limit their further spread, is closely linked to their scale of application in farming systems. The highest lucerne use to date has been achieved in medium to high rainfall wheatbelt regions where it grows well and where livestock are critical to farm profitability.

Lucerne adoption in Australian farming systems might be expected to expand to at least 7.5 Mha in the medium term, but this remains well short of the area currently regarded as suitable for production. This is partly due to the limited use of lucerne in phase rotations (rarely more than 50% of years as lucerne), which is in turn partly explained by the needs of livestock enterprises for a range of pasture types providing year-round production.

Existing livestock production systems need modifying to better exploit the opportunities presented by lucerne. Genetic improvements to overcome existing challenges (such as acidity and grazing tolerance, and drought persistence) will also facilitate additional expansion.

Please send me Lucerne Prospects

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Surname _____

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