Fitting pastures in

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Fitting pastures in

How will the conventional legume pasture fare as the predicted increase in cropping intensity continues?
It will still fit in, through integrated crop-stocking systems, according to Kwolyin farmer E. J. Cook.
He is convinced that the technology now available will allow a number of alternative farming systems to be practiced in Western Australia. The indications are for intensified land-use systems to be developed within the constraints of economics of production and resource availability, taking into account conservation and environmental factors as well.
Here are some of the options he suggests, related to stock-feed availability, and some possible problems:

Rotational cropping
Using legume pasture:
Quality pastures and stubbles are available from this proven, low energy-low risk system, particularly if it is coupled to minimum cultivation and optimisation of legume pasture composition and use.
This optimisation has been overlooked with the advent of cheap, nitrogenous fertiliser. But it will need much closer monitoring as nitrogen becomes an increasingly expensive resource.
Perhaps a monitoring approach to legume pastures, as the “2 and 3-Tonne Club” members apply to their wheat crops, may pay dividends.
Legume dominant pastures can have problems. For example:
• The lack of early winter feed resulting from reducing the grass component of pastures. This can follow “in crop” grass control and pasture manipulation by herbicides. It could be offset by reserving large package hay or processed stubble, and making better use of clover burr.
• A reduced seed bank, caused by dry seasons, poor soil structure and burial of burr by ploughs. Annual

Grain lupins . . . a Western Australian cropping success story.
resowing with improved hard-seeded varieties such as Nungarin clover, and use of minimum tillage would reduce the problem. Clover reseeding under crop gave increased sheep body weights and wool weights, as well as higher crop yields, in a CSIRO trial at Dalwallinu.

- Naturally and induced acid soils can suffer from reduced molybdenum availability. This may require liming and trace element adjustment.
- Seasonal deficiencies of leaching nutrients such as potassium and sulphur on deep sands.

**Using grain legumes:**
This is a low energy-high risk system, which leaves seasonal cereal and grain legume stubble available. In the growing season, lot feeding of stock, or agistment to pasture areas would be necessary.

**Continuous cropping**

**As a monoculture:**
This high energy-high risk system may be capable of high, short-term returns. But the only feed available would be cereal stubbles. It may have a short-term role in improving poorly-structured soils if minimum cultivation is used.

**Alternative land use systems**
To preserve ecological balance in landscapes, strategic reafforestation and agro-forestry should be undertaken in our over-cleared agricultural areas.

Although intensive systems such as "crop in pasture" could reduce salinity problems by better moisture utilisation and soil structure, deep-rooted perennial browse shrubs should be considered to reduce down-slope sub-surface water movements.

We are armed with a sound technology to meet the challenges of rapidly changing farming practices, yielding variable quantity and quality of livestock feed. With a responsible attitude by farmers and commercial organisations, and close monitoring of systems by scientists, highly productive, integrated crop stocking systems should predominate, which will support a healthy, permanent agriculture in W.A.