

What do farmers think of break crops?

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The majority of Western Australian wheatbelt farmers believe that break crops (lupins, canola, oats and field peas) will play an important role in future farming systems. Break crops represent less than 10 per cent of WA grain production and have been on a downward trend since *Balaustium mites* began causing problems in the early 2000s.

What do farmers think we should do in terms of the future of break crops in WA? In 2008 a crop rotation survey was commissioned by DAFWA Break Crop Project to find this out.

The project – which is funded by GRDC in partnership with DAFWA, CSIRO and UWA – interviewed over 200 farmers.

Part of the survey aimed to determine how farmers regarded break crops in their farming system. It was the first time such an extensive survey has been conducted in WA that embraces the rotation crops collectively and focuses their role in today's farming systems.

Grain growers from across the WA wheatbelt were interviewed during October–November, 2008. Interviewees (property sizes over 800 hectares) were evenly distributed across high, medium and low rainfall areas.

Based on the information received, farmers were put into one of four categories; mixed farmer, livestock farmer, intensive cropper and wheat-lupin farmer (Table 1).

Mixed farmers made up 36 per cent

and intensive croppers represented 26 per cent of those surveyed.

The results of the survey were reported at the WA Agribusiness Crop Update in February 2009. The survey found the primary reasons why growers chose break crops were for their break crop effect, disease control in cereals and supply of nitrogen.

Yield variability was rated as the biggest problem associated with break crops. Establishment of break crops in drier seasons and the overall costs of growing break crops were also found to be major barriers to growing them.

Farmers also tolerated the poorer returns from break crops to realise either the rotational benefit, disease control or weed control for their cereals. But almost half the participants said they would prefer to grow only wheat or barley if they could get away with it.

The large majority of farmers are growing break crops for the rotational benefit, disease control in cereals and weed control. Interestingly, income diversity is a lot less important as a benefit of break crops. Those farmers using break crops (97 per cent) are more likely to recognise the control of diseases in cereals as a benefit than those not currently using break crops (81 per cent) (Figure 1).

Different farmers, different motivations

Factors that influence their choice of break crops highlighted some real differences between different types of farmers – for example, most wheat-lupin farmers (95 per cent) were strongly influenced by the supply of nitrogen compared to phase croppers (51 per cent). Farmers were universal in their motivation for choosing break crop for their ease of controlling weeds but differed on the influence the disease break had on their crop choice.

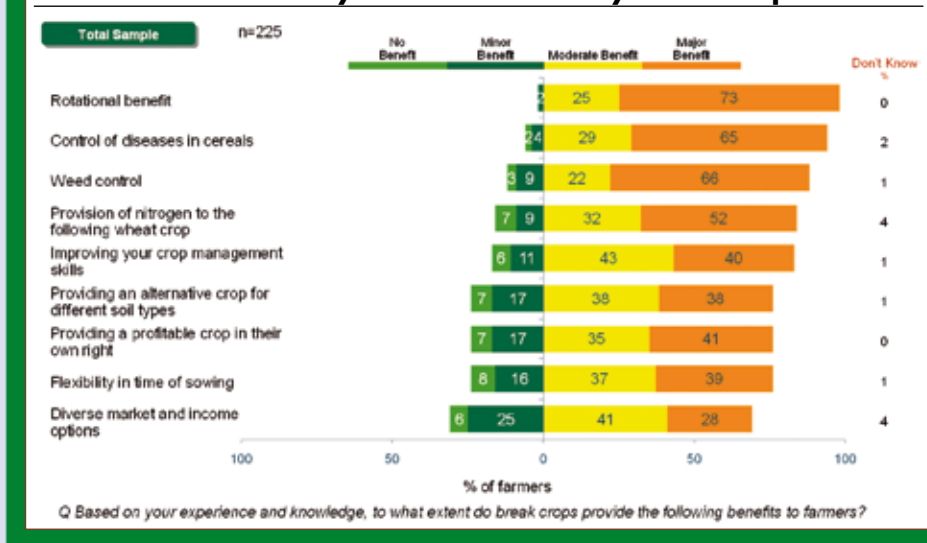
What-lupin farmers are the most strongly influenced by break crop effects and supply of nitrogen to the following cereal crop (Figure 2). They also tended to be more influenced by no need for specialised equipment. All farm types considered the ability to control weeds with the break crops of similar influence.

While most farmers say they understand which break crops are more suitable for

TABLE 1: The classification of farmers was made according to the area of crop and pasture – the number within each category is listed

Classification definition for purpose of this survey	Farmer type	No.
Pasture area of 20 to 60 per cent of the total farm area. Wheat and barley are dominant crops.	Mixed farmer	81
More than 60 per cent of farm is devoted to pasture for sheep. Less than 40 per cent of farm is in crop in any one year. Wheat and barley dominate the cropping operations.	Livestock dominant farmer	50
Pasture occupies less than 20 per cent of the farm area. Cereals dominate the system. More than 80 per cent of farm is in crop and less than 10 per cent is lupins in any one year.	Intensive cropper	55
Pasture occupies less than 20 per cent of the farm area. More than 80 per cent of farm is in crop and more than 10 per cent is lupins in any one year.	Wheat-lupin farmer	39

FIGURE 1: Rotational benefits, disease control and weed control are considered the key benefits offered by break crops



them, they are interested in information which helps them make better decisions and manage the risk associated with each break crop.

Some key research needs identified by participants were:

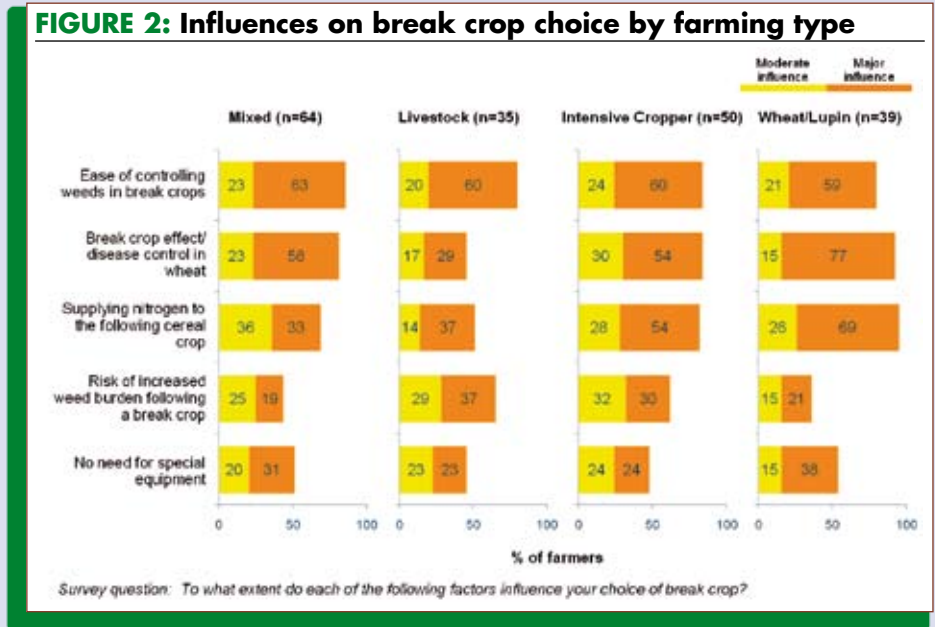
- Technology that makes break crop establishment easier and more reliable; and,
- Better quantification of the break crop effect.

Mixed farmers (47 per cent) and the phase croppers (48 per cent), rated pastures as more important than break crops compared to intensive croppers who put pasture on a par with break crops.

Overall the vast majority of growers believe break crops play and will continue to play an important role into the future – this was true across all farming types but was particularly strong with wheat-lupins farmers.

The survey reinforces the main concerns of farmer’s regarding break crops – variability in yields, costs and establishment.

The survey result has been used to steer communication strategies and research di-



rections of break crops for DAFWA and GRDC. The results clearly show that growers’ understanding of the break crop effect and the establishment of break crops in drier, more variable seasons could be improved.

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Time of change down on the farm

Almost two thirds of all agriculture businesses made changes to their land management practices over the past five years, according to a report just released by the Australian Bureau of Statistics.

The report on *Land Management and Farming in Australia in 2007–08* found that 75,000 farmers prepared land for crops or pastures, with 40,000 (53 per cent) using zero-tilling methods.

A total of 17.5 million hectares was prepared using zero-till methods, 6.3 million in Western Australia. One or two cultivation passes were used on 8.1 million hectares.

Other survey findings

- Approximately half of all businesses with native vegetation, wetlands, or rivers and creeks reported activities to protect these areas for conservation purposes.
- The majority of graziers (69 per cent) reported monitoring ground cover levels in their paddocks, with over half of these having set a minimum target.
- The highest average targets (above 80 per cent) were reported in southern and eastern Natural Resource Management regions.

- Fertiliser was used by 62 per cent of farms, ranging from 79 per cent in Western Australia to 44 per cent in Queensland.
- Total fertiliser used was 6.6 million tonnes, including 4.3 million tonnes of chemical fertilisers, and 2.3 million tonnes of animal manure. Animal manure was used by 12 per cent of farmers, on 718,000 hectares.

- Soil acidity required management by 17 per cent of farmers, and most of these used lime or dolomite to treat their land. Less than six per cent planted acid tolerant crops or pastures as a means of managing for soil acidity, although this was 12 per cent in New South Wales.

The survey provides benchmark data for the Australian Government’s ‘Caring for our Country’ program.



More than half of Australian farmers now zero-till.