

Crop rotations used in the cotton industry

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Much of the Australian cotton crop is produced under irrigation in the Macquarie, Namoi and Gwydir valleys of NSW. Rising water tables and salinity are long term problems for any irrigated agriculture. Insect pests, diseases, soil structure and fertility are extra problems for cotton growers. Growing other crops in rotation with cotton appears to offer the best prospect for long term viability of the cotton industry. A survey was conducted to find out how widely rotation crops are used and which rotation crops growers favour.

Methods

Cotton producers in the Macquarie, Namoi and Gwydir valleys of NSW were contacted by telephone and asked which crops they used in rotation with cotton, why they selected those crops and what problems or benefits they observed when using rotation crops. An attempt was made to contact all growers whose address and telephone number were known. In the Macquarie valley 59 growers were surveyed, 49 in the Namoi and 49 in the Gwydir valley, which represented 95%, 50% and 50% of the cotton acreage in the Macquarie, Namoi and Gwydir valleys respectively. The replies were then analysed to determine the area of rotation crops grown last season and the proportion of growers who had tried various rotation crops.

Results

The use of rotation crops was widespread with 53%, 82% and 78% of growers in the Macquarie, Namoi and Gwydir valleys, respectively, using rotations. The low figure for the Macquarie valley is because many new growers have entered the industry in the last 2 years and not had time to establish rotations. Although most growers said they were using rotations, only a small proportion of the 1992/93 cotton crop followed a rotation crop. Table 1 shows that only in the Namoi valley did more than 25% of the current cotton crop follow a rotation crop. A wide range of rotation crops have been used but wheat is clearly the preferred crop.

Table 1. Previous history of the current (1992/93) cotton crop

Previous crop	Macquarie	% by area Namoi	Gwydir
Cotton	61.5	47.2	68.1
Fallow	5.2	9.7	4.8
Virgin	7.6	1.9	3.5
Wheat	16.7	22.2	21.2
Chickpeas	0.3	6.1	1.3
Other rotation crops	8.8	12.6	1.0

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