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# AUSTRALIAN GRAIN

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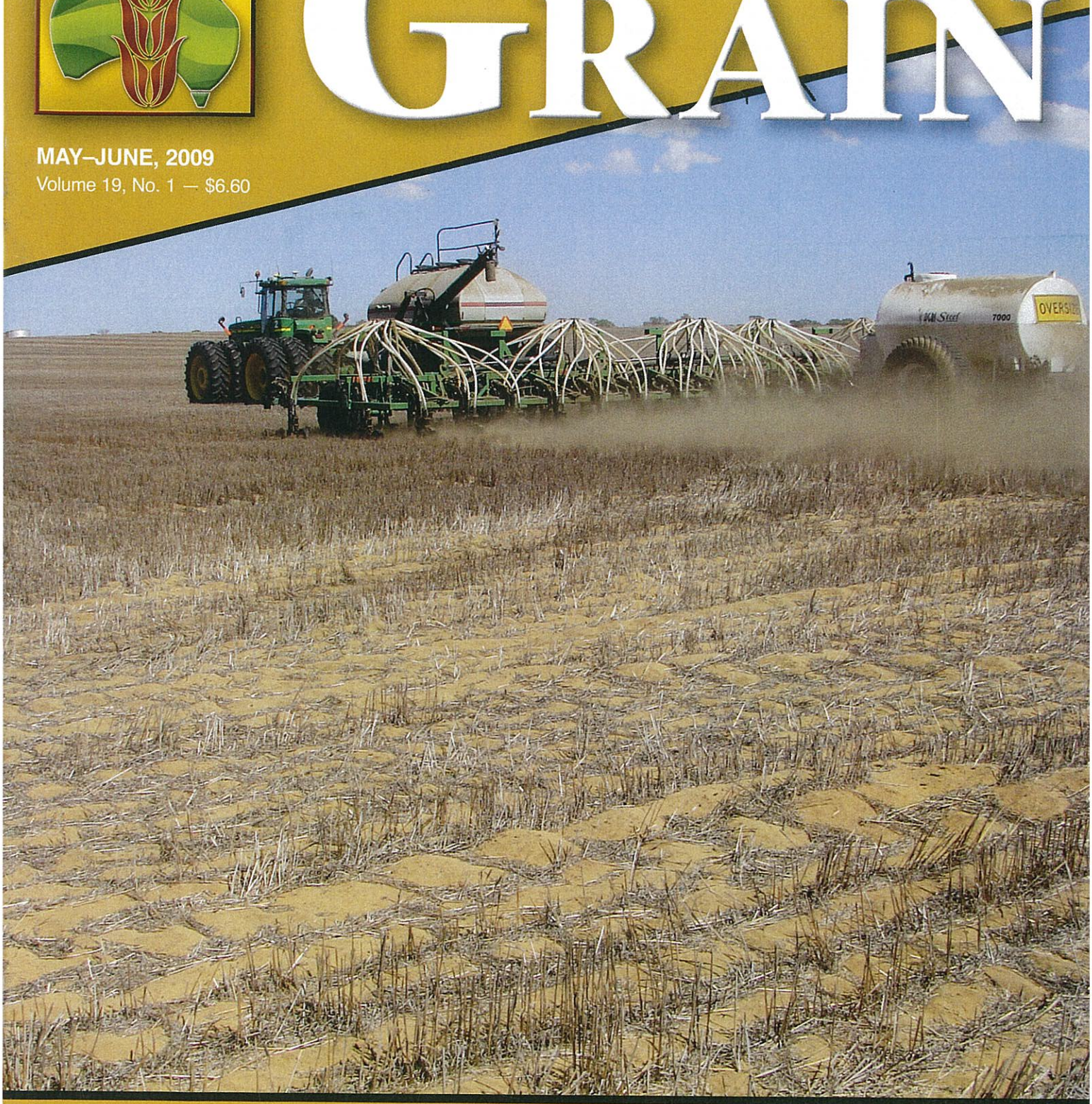


INSIDE



*This case study is part of the Better Oilseeds project addressing the urgent and critical need to lift the productivity of oilseed crops within Australia, specifically canola, sunflower and soybean, to ensure critical mass and consistency of production and to improve the quality of grain produced.*

# Organic soybean came naturally

Neill Wiseman's father began farming this southern NSW property around 1960. Neill took over farming in 1975. Neill and Gina started to convert to organic agriculture in 1998, and over a five year period, converted the entire farm to organic to meet the demands of niche markets. But they now are keen to remain organic growers for a range of reasons.

## Neill and Gina's comments...

### Why grow soybeans?

We've been growing soybeans since the 1980s, originally conventionally. We decided we could grow them organically very basically, after we worked out what we had to do to make it happen. We started with organic onions as a winter crop.

### Negative aspects of growing soybeans

I don't know if there is anything negative about them. With the newer varieties, we can get them harvested usually before the break of the season. The soybeans work quite well in our organic situation.

### Sowing system

We have a John Deere Max Emerge planter. It is a disc opening precision planter with decent closing wheels (press wheels). If it's too wet, we don't put too much pressure on the wheel. We sow into moisture and don't water up.

**FARMERS**

Neill and Gina Wiseman, organic soybean growers

**LOCATION**

Coleambally, southern NSW.

**ENTERPRISES**

Onions, soybeans, pumpkins, about 200 prime lambs – all certified organic.

**PROPERTY SIZE**

400 hectares.

**AVERAGE ANNUAL RAINFALL**

300 mm.

**SOIL TYPE**

Very variable, heavy grey to red cracking clay.

**SOIL pH**

Neutral, following 10–12 years liming.

We aim to pre-irrigate about two weeks before sowing so we don't lose moisture. Beds are 1.83 m wide (6ft) with three rows of soybeans per bed (45 cm spacing on the bed). We aim to sow soybeans mid November, and to establish 35 to 40 plants per $m^2$ (350–400,000 plants per hectare).

### Harvesting equipment

We use an International header with a front fitted with a floating cutter bar. In the past we used a contractor, but with our cleandown requirements before harvesting, it made it very difficult. It could take eight hours to clean down a harvester beforehand.

### Paddock preparation

Before the drought, a green manure crop was sown the previous autumn, including a mix of vetch, oats, faba beans and other crops as green manure material. The crop would be ploughed in during August, usually with a rotary hoe.

Then we prepare the beds and the seedbed is ready to pre-irrigate in late October or early November.

### Varieties

We predominantly grow Djakal. In the past we have grown Snowy, Bowyer and Curringa, which is suited to an earlier planting time.

### Crop nutrition

We do a soil test before sowing. We use rock phosphate and other nutrient sprays, such as 'Seed and Soil' which provides food for the biology (microbes) we add. We also use a product called 'Balance and Grow' which contains the living organisms as well as food for them.

The rates and products we use depend on the year and crop. The green manure also helps fire the soil up. Seed is treated with a legume inoculant and organic starter nutrients.

### Weed control

Pre-irrigation allows for germination of weeds which are harrowed before planting. After sowing weeds are controlled by inter-row cultivation.

### Pest management

We manage pests with good husbandry, good watering and keeping the cultivation right and trying not to stress the plants. We have concentrated on looking after the health of the plant, and find that when we do that we have very few pest problems.

### Disease management

With soybeans, we haven't had any major issues. We've found them pretty good regarding diseases. We try to always use clean, fresh seed. Our country has been lasered so we don't get waterlogging (which leads to disease like phytophthora).

### Cost of production

The organic soybeans cost more than a conventional crop to grow, because we in-

better OILSEEDS

This soybean case study has been compiled by Felicity Pritchard, Pritchard Agricultural Consulting and Extension, as part of the national Better Oilseeds project, an exciting initiative funded by the Grains Research and Development Corporation and the Australian Oilseeds Federation.

The Better Oilseeds project is addressing the urgent and critical need to lift the productivity of oilseed crops within Australia, specifically canola, sunflower and soybean, to ensure critical mass and consistency of production and to improve the quality of grain produced. The project began in 2006 and aims to increase the value of the Australian oilseeds industry through enhancing productivity and value.

A number of activities are encompassed within the project which includes practical on-farm demonstrations of pertinent agronomic issues for all three crops, field days and forums and grower case studies to share knowledge within the industry.

Watch for a booklet which will include technical information and case studies of soybean growers from around Australia to be released this winter.

**See www.australianoilseeds.com or contact ground-cover-direct@canprint.com.au or call 1800 11 00 44 for a free (plus P&H) booklet.**

clude half of the costs of the green manure crop into the costs for soybeans. This can add about $150 per hectare (half of the full cost) to the variable costs.

Water is $300 per megalitre at the moment. And if the soil is very dry it needs 2.0 to 2.5 ML per hectare (equivalent of 8–10 inches rain) to wet it (to field capacity).

A fully irrigated crop takes 7–8 ML per hectare, so you need to look at the opportunity costs. If you can buy water at $100 per ML, it's feasible.

### Economic benefit from growing soybeans

In past years, the price of conventional soybeans has ranged from $500–$600 per tonne, while organic soybeans were in the vicinity of $800–$900 per tonne.

The benefits also include high quality sheep feed following a soybean crop, due to beans left behind after harvest.

Some nitrogen is also added for the following crop. Although the amount is not massive, it can add up to be quite reasonable. For example, two soybean crops leave enough N for an organic crop of linseed.

### How do you ensure high quality soybeans?

By using good husbandry.

Vitasoy have been very happy with the quality of our beans. We've provided a pretty good, clean product. The proteins are fairly good. If we get the nutrition right, it usually keeps the insect pressure down.

We also monitor our water usage as irrigation management of soybeans can increase yields and grain size. It gives good information about refill points and whether we are overwatering, and the information goes straight onto our computer.

### Soybeans compared to other crops

Organically I see them as an advantage as they produce their own nitrogen.

### Crop yield

The last crop we grew yielded more than 3.5 tonnes per hectare, which was more than the district average. Most of the grain is usually sold to Vitasoy but some finds its way to smaller niche markets. ■

**Organic soybean grower, Neill Wiseman.** (Photo Kieran O'Keeffe, Agronomist, Coleambally, DPI, NSW)