



Black Friday at the Black Stump!

Iva Quarisa

Irrigation Officer (Griffith), NSW Department of Primary Industries

IN A NUTSHELL

- ▶ The Murrumbidgee branch of the Young Irrigation Network kicked off 2006 looking at new crops in the Tabbita Lane area, near Goolgowi
- ▶ A 250 ha walnut plantation is establishing very well, achieving in two years what it takes three in Tasmania, and looking towards full production by year eight
- ▶ Cotton has proven the best option for land where rice water use was too high – the cotton has been so successful that winter crops have been eliminated from the cropping program and resources are entirely devoted to cotton and maize

A look at some non-traditional cropping enterprises for the Tabbita Lane area, about 30 km north of Griffith, and finishing up at a very traditional watering hole out that way, was the first function for 2006 for Murrumbidgee branch of the Young Irrigation Network.

On Friday the 13th, of January, a group of young irrigators and a few interested others, visited two of the newest crops in the district – walnuts and cotton – before ending the day at the historic Black Stump Hotel at Merriwagga for dinner and a few drinks.

Webster walnuts

At 100 km/h driving along Tabbita Lane, Goolgowi, the Webster walnut plantation looks pretty inconspicuous. But as you begin the slow drive down the bumpy driveway and plumes of rusty red dust fly up, things quickly become more impressive. There is definitely movement at the station, as hundreds of tonnes of soil heaped into long straight mounds become visible.

When you reach the first blocks planted in July 2004 (250 ha) you see that the walnut trees are going great guns. Orchard manager David Mead says they are very impressed with the growth of the trees. The trees are now over six feet tall and would have taken an extra year to reach the same height in Tasmania, where Webster, a Tasmanian-based company, manages another 600 ha of walnut trees.

David says they expect to have a small harvest in the fourth year of the plantation, with trees expected to reach full production of about 5 t/ha by the eighth year.

Once the trees start to encroach on the inter-row space, they will be pruned on a three-year hedging rotation (one row

will be hedged every third year so that after three years the orchard will have been completely pruned). The hedging promotes growth and light infiltration, necessary for production, while maintaining orchard access.

The orchard is drip irrigated with the second drip line added in the winter just past. The first line was buried on the western side to encourage root growth which acts as an anchor against the predominantly westerly winds. Provisions have been made to add a third drip line if it is required in the future.

In the pump shed there are two diesel pumps which will be relegated to "stand-by units" once the three electric pumps are installed this winter, and they have budgeted an average water use of 9–11 ML/ha.

Stage two of development is currently underway, with the planting mounds being formed and hand planting of the



Figure 1 The moulder used to build the rows on which the walnut trees are planted and drip lines for irrigation are laid out



600 ha due for the winter. The mounds are made "as high as possible" as there will be up to 20% settlement. Figure 1 shows the mounding implement used.

Harvesting will comprise of a tree shaker, with nuts being swept into the centre of each row before being gathered. The best quality nuts will be sold in the shell, and at this stage it is planned that lower quality nuts will be cracked and hulled on site before being sold.

There is huge interest within the group to return in a few years to view the harvesting and hulling operations.

Fraser's cotton

Historic high rice water usage (17 ML/ha) in past years prompted Ian and Irene Fraser to investigate alternative summer crops to grow on their property for the 2004-05 irrigation season. After the success of growing cotton last season (which used 8-9 ML/ha), the Frasers decided to not only increase the area planted to cotton (from 110 to 170 ha) but they have also decided to eliminate irrigated winter crops from their farming rotation and concentrate on growing cotton and corn in the summer.

This season Ian and Irene have planted Bollgard II® and Round-up Ready® varieties, mainly because of the reduced reliance on pesticides. Traditional non-GM (genetically modified) crops may have required 8-9 sprays by mid January, whereas the Frasers have not applied any sprays at all to their GM crops.

Attached to the use of GM seed are some management conditions (the use of GM seed is governed by the office of Gene Technology Regulator). These include the practice of "pupae busting" and planting a "refuge" crop. At the end of the season it is important to "pupae bust" (cultivate the soil to a depth of 10 cm) to prevent heliothis pupae from surviving in the soil, so reducing the likelihood of resistant pupae breeding. Planting a refuge crop allows non-resistant heliothis to grow increasing the chance they have of mating with any resistant heliothis that survived the pupae busting, and in so doing, reducing the likelihood of building up a population resistant to the pesticidal effects of the GM crop.

Ian and Irene added that one of the keys to successful establishment is not to plant too early. Soil temperature


(12°C and rising) and sunlight hours are key factors in the establishment and good growth of a cotton plant. It is obvious that attention to detail is essential in growing a good cotton crop. They rely upon the good and timely advice, such as nutrition and plant growth regulant matrices, from a number of sources including their agronomist and the NSW DPI cotton development officer.

Ian says that cotton is a very forgiving crop in terms of soil type. Old roadways, bank lines and channels are not visible as uneven growth in the cotton field as is the case with rice and corn. They have even managed to establish plants on a very salty patch which has been out of production for a number of years.

Ian and Irene improve their gross margins by doing as much of the work (such as planting, chipping and picking) as possible. They have been lucky enough to find a variety of second hand equipment which has needed only minor repairs and alterations. They are also adjusting their irrigation layout to one which will best suit growing cotton and their machinery.

As Australia produces the highest quality cotton in the world, the Frasers believe the future of cotton growing is strong and they look forward to being a part of the industry for a long time to come.

.... and for the rest of the year

The Murrumbidgee branch of YIN is looking to holding another few functions during 2006. These include a succession planning workshop (during May/June) as well as a half-day farm tours to view new farming and irrigation technologies within the district. If you are aged between 18 and 40, involved in the irrigation industry and would be interested in taking part in such activities, please visit our website (www.youngirrigation.org) to register and become a member of the Young Irrigation Network. 

Further information

Iva Quarisa
Irrigation Officer, Griffith
NSW DPI, Griffith
Telephone: 6960 1300
Email: iva.quarisa@dpi.nsw.gov.au



Figure 2 David Mead speaking to the YIN group in the two-year old walnut plantation at Goolgowi



Figure 4 Ian and Irene Fraser describe their farming operation that comprises of cotton and maize only, and no other winter or summer crops