profile

Don and Paula Nairn

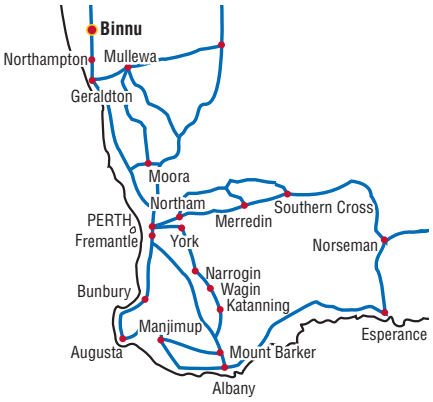
Location: Binnu

Annual rainfall: 320 mm

Arable area: 2476 ha (all cropped)

Soil type: Good sandplain and red loam

Contact details: 0427 272 195



Exploring the possibilities for grazing canola

Jade Dempster, WANTFA

Funded through the Grain and Graze 2 Programme

FOR THE last eight years the Nairns have been experimenting with rotationally grazing winter wheat, and over the last four years they have been able to finetune the system. Currently they run 2950 Merinos which are maintained by utilising the winter grazing technique, a small area of grazing oats, 150 ha of perennials (ragodia) and forage shrubs (tagasaste), 58 ha of Nutrifeed forage millet and 70 ha of Superdan II sorghums.

Last year Don and Paula trialled canola as a winter grazing option for the first time on their property and were pleasantly surprised by some of the results. They are one of nine growers who are taking part in a long-term 'Grain and Graze 2' project investigating the suitability of canola for winter grazing.

Making the switch to a winter grazing system

Before learning about the use of winter rotational grazing within the farming system the Nairns' rotation included sub-clover and some serradella. The problems the Nairns had with this farming system, however, were:

- delayed early grazing associated with inadequate pasture biomass, particularly in late breaking seasons;
- loss of bulk feed due to controlling weeds in the pasture phase;
- the amount of money and time spent on supplementary feeding; and
- limited ground cover from overgrazing, putting paddocks at risk of wind erosion.

'I still wanted a mixed farming system to provide security to the enterprise,' Don explained. He went on to say, 'I prefer the idea of growing our own feed, rather than

buying it in, and so far we haven't experienced too much of a penalty from grazing wheat.'

Prior to adopting the winter grazing technique at a whole farm scale Don visited experienced growers in Wagga Wagga (New South Wales) and took part in the original Grain and Graze project. He also became involved in an Enrich program run by Future Farm Industries that complemented the new approach he wanted to undertake.

Using electric fences Don rotates his mobs across his paddocks. He confines the sheep to 15–30 ha cells at a stocking rate of about 20–30 dry sheep equivalent (DSE). Typically they can graze a cell for about a week before the adjacent cell is opened up.

'The sheep don't really need to be trained for rotationally grazing, they want to move across to the larger plants,' Don said.

Grazing pressure still needs to be monitored during the season though to avoid a significant yield penalty and uphold a profitable crop at harvest. The main point to remember is to protect the crown of the plant from grazing.

'I try to introduce ewes to a cell at least a fortnight prior to lambing (end of June) to help them adapt to grazing the wheat.' Don explained, 'I then utilise grazing oats sown between my permanent strips of perennials and fodder shrubs for lambing.'

Some of the lessons learnt during the adoption process

- Eagle Rock wheat is a good option for grazing and also provides an opportunity to use metribuzin to clean up radish, however any wheat suited to your area is okay for grazing.
- Growing canola after wheat can help control grasses, particularly problem brome grass. Introducing canola varieties suitable for grazing should also add flexibility to the farming system by reducing double grazing events.
- Typically grazing wheat twice within a season can reduce yields by 300 kg/ha, but grazing once can enhance yields by 300 kg/ha.
- To reduce labour requirements, set up common water lines with snap on/off fittings and use electric fencing (about 800 m lengths) as they can be put up in half an hour. It takes some effort at the start, but saves time in the long term and is much easier.

TOP: Ewes rotationally grazing canola with their lambs.

ABOVE: Don Nairn measuring plant height just prior to harvesting.
PHOTO COURTESY OF RICHARD QUINLAN, PLANFARM.

OPPOSITE PAGE: Ewes grazing wheat and tagasaste strips on the 25 June 2010.
BELOW: Lactating ewes grazing the canola trial.

Observations from the 2010 canola grazing trial

The Nairns' canola grazing systems trial was situated within a 65ha paddock which was sown in a north–south direction. Non-replicated bulk sown varieties included in the trial were 45Y82 (hybrid Clearfield®), Hurricane® (open-pollinated TT), 44Y84 (hybrid Clearfield®) and 571 (hybrid Clearfield®). All of these varieties were sown on the 17 May (emerged 26 May) and all were grazed at the 4-leaf stage (16 July) at a stocking rate of 43 DSE/ha by moving the sheep in an east–west direction. A control area also remained ungrazed to provide a comparison. The sheep rotationally grazed the varieties until 27th July. This was equivalent to a grazing income of $58/ha. The table below shows the harvest results for the canola with and without grazing.

Treatment	Ungrazed		Grazed		
Canola variety	Yield (kg/ha)	Oil content (%)	Yield (kg/ha)	Oil content (%)	Variation (kg/ha (%)
45Y82®	299.0	37.0	633.0	37.9	334.0 (0.9)
571CL®	571.0	37.8	417.0	35.8	-154.0 (-2.0)
44Y84®	418.0	36.6	385.0	37.5	-33.0 (0.9)
Hurricane®	233.0	34.9	150.0	38.1	-83.0 (3.2)

(Taken from trial report supplied by Richard Quinlan, Planfarm Pty Ltd, as part of the 'Grain & Graze 2' project.)

Note: The varieties were not replicated and so growers should be careful how they interpret the results, however the results suggest there is little overall effect of grazing on canola grain yields (Richard Quinlan).

Overall, Don was impressed with the tolerance of the hybrid varieties to grazing and even more excited by the significant yield improvement 45Y82® showed to grazing.

'The hybrids just had much more vigour, whereas the TT canola never performed, even where it was not grazed,' Don explained. 'The difference in yield for 45Y82® was massive and very encouraging given the late planting date and the dry year (GSR 199.5 mm).' Although the harvest results for Hurricane® were poor, Don recognises that not all TT varieties may response poorly to grazing. The trial will be repeated this year at Don's property, as will a wheat grazing trial.

The 2011 season

The positive trial results have given Don the confidence to rotationally graze his canola paddocks this year. Don revealed that 90% of his canola program was Clearfield® hybrids (44Y84® and 45Y82®) this year, all of which were sown by the end of April. He aimed to sow the canola at 2.8 kg/ha, though in went in at 3.4 kg/ha.

'I may have to consider mixing the varieties with non-Clearfield next year to get the rate right', Don said. He is very keen to continue testing the potential of grazing canola and look at the ways it can complement his farming system. Don thinks that grazing canola will be of benefit to the feed program because of the difference in grazing dates (e.g. spreading the grazing days). In 2012 he will try other TT hybrids, but only canola varieties that have very little or no yield penalty from grazing will be selected.

This is something that is backed by Richard Quinlan, 'I wouldn't be keen to have any yield penalty (e.g. <100 kg/ha) as it becomes very difficult to make the economics work when yield is compromised, even if sheep prices are high.'

45Y82® just prior to being grazed for the first time.
PHOTO COURTESY OF RICHARD QUINLAN, PLANFARM.

Pioneer representative speaking to growers about Clearfield® hybrid 45Y82.