



the ARCHIBULL PRIZE

THERE'S MORE THAN
POWER IN PIG POO



Photo: Australian Women's Weekly

SUE MIDDLETON SEES POWER IN PIG POO.



The WA farmer has plans for piggery effluent.

“My ambition is to show Australian pig producers that adopting biogas technology can create an affordable means of generating power, capturing methane to reduce carbon emissions while also producing an organic fertiliser product and reducing smell,” she said.

Sue lives with her husband, Michael Brennan, on the original Brennan family farm taken up by Michael’s great-great uncle Dan McCormack and then passed to his grandfather Peter, when he moved to Australia from Ireland in 1926. The original 526 hectares in the WA wheat belt at Wongan Hills stayed in the family after Peter died, leaving his wife and three young sons.

The family has expanded and diversified operations. Sue said: “The farm started off as a cropping and sheep farm, and we have continued to expand on all fronts and also to diversify our operations.”

This allows the family to shift investments between the different enterprises and concentrate on the one that is most profitable, while maintaining the others at a sustainable level.

“The problem is if all enterprises have loss-making years at the same time, or all need investment, then it can be very testing,” she said. “The good side is that we get a real cross-sector view of agriculture and can relate to the challenges that people are facing in other industry sectors.”

The farm now includes three properties, covering about 6000 hectares, with about 5300 hectares under cropping and 210 hectares under citrus. The farm runs about 1200 ewes in a self-replacing herd, which can mean running 3000 sheep at the peak after lambing.

The piggery houses 1150 sows, or about 7000 pigs, spread over three separate locations. It includes Western Australia’s PIC multiplier herd unit and the Pig Skills Centre Breeding Unit.

The move into orchards was prompted when Sue discovered that 60% of Western Australia’s fruit was imported from interstate and overseas.

“We set out to develop a business that could replace imported fruit with locally grown fruit. That’s better for the environment and better for health, as the fruit is fresher, and the fruit travels less miles to the market place,” she said.

“In all our operations, we are having to get smarter about using resources such as water and fertilisers,” she said. “We take advantage of the rain when it falls and it acts as a trigger for our grain operations. We are avid watchers of the weather forecast!

Efficiency is the key in grain farming this days – fertiliser is very expensive so farmers need to make sure every bit works.

“We use special equipment that places the seed in the seed furrow adjacent to, but not touching, the fertiliser,” said Sue. “Then when it rains the seed can get established quickly, with appropriate nutrients, and we’re saving fertiliser by not spreading it on the land surface.”



In the cropping enterprise, second and third applications of fertiliser are applied as soon as possible after rainfall, so that nothing is wasted. This means working operating 24-hours a day to get it applied quickly.

“We want to make every rain system work for us,” said Sue. “Many of the farmers around here use non-till farming methods in an effort to maintain soil moisture and reduce erosion. We also use non-till techniques but we also deep-rip our non-wetting soils, which turns the soil and improves water penetration.

“At the same time we apply organic matter – compost from our piggery operation - back into the soils. This is limited by cost because the application of natural forms of fertiliser, such as pig manure, is expensive,” she said.

It’s not the only point of difference between their farm and those of their neighbours.

In 2002, the farm undertook a strategic planning process, using a business consultant external to agriculture, and the business runs like a private company, using an independent board of advice to give feedback on business management decisions.

“We thought we needed to be pushed, like a private corporate business,” said Sue. “All our major decisions are tested with the board to give us feedback to help us make the best long-term decisions for our business. We also differ from other private farms in the area in that we have sought equity partners from outside agriculture.”

The driver to this approach is forward-planning for about 50 years hence, she explained. “The recent expansion has been driven by projecting the family situation that far in to the future and working out how to meet those requirements.”

The family has also taken a performance management approach to staff management, Sue added. “We want people to improve their skills while they are with us. We take a long-term view of our investment in people and like to think that our training systems help to build the skills of the entire industry.”

Both Sue and Michael seek leadership opportunities, participating on various advisory groups and boards. Sue was recently named Australian Rural Woman of the Year, and she sees this as an opportunity to explain the role of farming and food production to Australians.

"I want people to understand what farmers do and how they care for their land and about what they make and how they make it," she said.

SOME FACTS FOR THOSE WHO LIKE THEM:

- The **soils** on the three properties range from gently undulating sand plain in Moora to gravelly-mixed soils in Yerecoin and gravelly soils in Wongan Hills. The farm employs a soil scientist to help optimise soil health.
- **Rainfall** occurs in a Mediterranean pattern, that is, the majority of rain falls in winter.
- **Average rainfalls** range from 375 mm (medium rainfall for WA) in Wongan Hills through to 450 mm (high rainfall) in Moora. However, recent averages have dropped to 270 mm in Wongan Hills (with only 150 mm this year) through to 300/350 mm in Moora (250 mm this year).
- **Climate change** predictions indicate a 20% reduction in rainfall in the area over the next 50 years.
- The cropping enterprise relies on rainfall and **bore water** is used in the piggery. Water for the orchard is supplied by an **underground aquifer**. Sue said: "There is enormous cost involved in bringing water from an aquifer to the surface, but if viewed as a very long-term investment, it will ultimately pay for itself."
- In the orchard, a system that measures the oxygen and water content around the root ball of each tree determines specific **water and fertiliser requirements**.
- **The property operates with** 40 staff, most of them employed in the piggery and orchard/nursery.

