Many options: A Bud box leads into the main race in the Wearn's yards, where the air-operated crush and auto-drafter allow quick and easy weighing and handling. Byline: Joy Wearn

Thorough research ensures yards work well

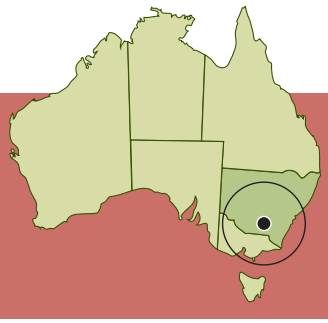
Inadequate infrastructure, an expanding beef enterprise and an ageing workforce prompted Bill and Joy Wearn to recently build a new set of cattleyards. After a thorough research and consultation process, the Wearns are thrilled with how well cattle flow through their new yards, and the ease at which large mobs can be handled in complete safety. By **Pamela Lawson**

Bill and Joy Wearn run an Angus cattle breeding operation near Holbrook in southern NSW, using Rennylea genetics in their spring-calving herd. Breeder numbers fluctuate between 1200 and 1500 head, depending on seasonal conditions.

Calves are weaned at anywhere from four to nine months of age and liveweights from 150–300 kilograms, again depending on seasonal conditions. Steers and cull heifers are turned off at 400–470kg liveweight and 15–18 months of age.

Case study

Owner/manager: Bill & Joy Wearn
Property location: Holbrook, NSW
Enterprises: Angus cattle, SRS Merino, Black-faced Suffolk lamb, Composite lamb, Agroforestry
Soil type: Silty loam to red granite
Annual rainfall: 660mm



INFRASTRUCTURE UPGRADE

As the Wearns gradually increased the size of their beef breeding enterprise, they saw the need to build a new set of cattleyards which would allow large mobs to be handled efficiently and safely.

"We really had no functional yards between our two adjoining properties, as the small set of yards we did have were falling down," Joy explains.

"We also knew our ageing workforce needed safer and easier yards to work in, so in 2017 we began researching yard designs and working out the main features we wanted."

The Wearns spent a lot of time looking at other cattleyards and talking to peers about what did and didn't work in yard design. They talked to Rod Knight from KLR Marketing and other Low Stress Stock Handlers about features that worked well, especially Bud Boxes which they were keen to incorporate into the design of their new yards.

"There were many late nights spent drawing, thinking and re-drawing until we were finally happy with our chosen design," Joy said.

MATERIALS AND FEATURES

Once the design had been finalised, the Wearns engaged local company Holbrook Engineering to build the yards.

"The steel railing and posts were cut on site," Bill explains.

"The uprights are a combination of 90mm square slotted posts and larger 250-300mm round posts where needed. We chose our site carefully on higher ground so it would drain well and concreated under the main race, Bud box and draft yards."

The new yards are orientated so the main race and loading ramp north-south to avoid sun and shadow issues, and mobs of 1200

Fully adjustable: The main race is fully adjustable (see inset) and has a manual crush and the loading ramp located at its northern end. Photo: Joy Wearn

head have been worked easily and efficiently since the yards were completed in 2018.

The main features incorporated into the new yards include an air-operated, automatic five-way cattle draft, an air-operated Thompson Longhorn cattle crush and an adjustable-width race that also opens outwards so and animal can be easily removed if it goes down. The Bud box leads into the main race and there is a panel NLIS reader mounted on the crush.

There is a second, manual crush at the loading end of the main race which is used for calving or vet work as it opens from both sides.

The air and water lines are run through heavy duty 50mm PVC pipe to minimise leakages and lines sagging.

SAFE AND HAPPY

The Wearns have found stock flow really well through their new yards and what was once a three to four person job can now easily be done by two people.

"Processing large numbers is now done in a fraction of the time and with great ease," Joy explains.

"The mob flows through easily and quietly – neither the cattle nor their human handlers have required retraining!

"Just this week we weighed and auto drafted 205 steers four different ways in one hour, with no yelling and no noise. They lead so well down the race and onto the scales that we don't need to shut back race gate.

"The auto-drafter gives us so many options for drafting mobs and then the yard design gives us multiple locations to put drafted animals easily and efficiently. We can also have a large number of bulls in for testing, keep them all separated and still have the yards standing afterwards!"

THOUGHTS AND ADVICE

The Wearns are very happy with the design of their new cattleyards. In hindsight, the only change they would make to further improve flow is to put another small yard between the Bud box and draft yard.

"We are also planning to extend the roof area over the western side of the race and over the Bud box, and to gradually concrete as many of the yards as possible," Joy said.

The main advice the Wearns would give other producers looking to build new cattleyards is to really do your research (it doesn't cost to dream and draw) and talk to peers and experienced cattleyard planners.

"Err on the larger size for yard capacity and make sure the drainage is good – build on higher ground if possible," Joy said.

"Also remember to ensure there is good tractor access to the yards, including to the crush and working area, and that gates are wide and high enough to access each yard." FA

More information:
Drone footage of the Wearn's cattleyards:
www.holbrookengineering.com.au/yards

Contact:
Bill and Joy Wearn
0429 367 233
joywearn@mulgoapastoral.net

Breath test detects cattle pregnancies

A NEW device is being developed by start-up company Agscent to detect pregnancies in cattle using a breath test. A hand-held breath sampling device is used to take a sample from a cow while she is restrained in a crush. According to Dr Bronwyn Darlington, the brainchild behind the device, nanosensors are then used to identify changes biological compounds in the breath sample which occur during pregnancy.

"Producers have traditionally used a veterinarian or skilled animal handler to pregnancy test cattle using palpitation or an ultrasound," Bronwyn explains.

"This is typically done 60-80 days after 'date night' with the bull or after artificial insemination.

"Using our technology to analyse a breath sample against a range of bio markers known to change during pregnancy, we have been able to detect a pregnancy 60 days after insemination.

"Currently the process involves two steps. Firstly, we collect a breath sample from the cow into our device, which takes about 10 seconds per animal. We then analyse the breath to identify changes in bio-markers which indicate pregnancy. This analysis currently takes about 60 seconds but we believe we can reduce this time with further work, especially if we can integrate the breath sampling device and nanosensors into a single unit."

Dr Darlington is now testing the technology over several Angus herds in the NSW Southern Tablelands, with support from Meat & Livestock Australia (MLA). It is hoped the technology can also be used for detecting diseases such as bovine respiratory disease, and to detect pregnancy in other animals such as sheep.

According to MLA business development manager Josh Whelan, there are significant operational and herd management efficiencies to be gained by producers using the Agscent device

"The early trials are positive," Josh said.

"The device will need to reach the highest industry standards currently achieved through palpation and ultrasounds in a commercial context to be viable.

"But early indications are that it might actually be more accurate in detecting early pregnancy than current approaches."

A breath away: Dr Bronwyn Darlington from Agscent is developing a device to detect early pregnancy in livestock through a breath sample. Photo: Agscent

Contact:
Jessica Darlington-Brown,
Research Operations Manager, Agscent
www.agscent.com

Clever design: A feature of the Kerin's yards is the unique but very effective internal laneway system that links every yard. Photo: Patrick Ryan, Proway

Clever design and use of technology streamlines yards

Regularly handling large numbers of trade cattle meant Nigel Kerin and his son Joe needed good cattleyards. A total rebuild two years ago has provided the Kerins with quiet, efficient stockhandling facilities that minimise stress for both humans and bovines. By **Pamela Lawson**

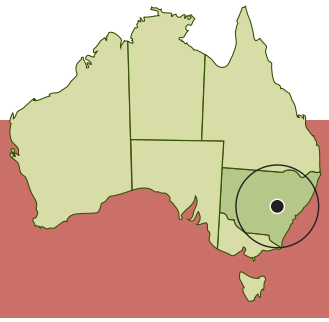
The Kerin family from Yeoval in the Central West of NSW are well known for their highly regarded Poll Merino stud. But as seasonal conditions allow, the Kerins also background Angus steers to feedlot entry weights. Steers are bought at about 300 kilograms liveweight and turned off as they reach 480kg. Numbers are carefully matched to pasture carrying capacity.

During the exceptional seasons of the 2016/17 financial year, the Kerins turned over 6722 steers. The number traded during the much drier 2017/18 financial year was reduced to 1200 head.

In the past the Kerins have also taken the opportunity to buy Angus heifers and artificially inseminate them to Wagyu bulls before selling them pregnancy-tested in-calf.

Case study

Owner/manager: Nigel and Kate Kerin
Property location: Yeoval, NSW
Enterprises: Poll Merino stud, Cattle trading
Soil type: Red loam
Annual rainfall: 650mm



NEED FOR SPEED

As is typical of trading operations, the Kerins regularly yard and weigh large mobs of backgrounding stock and therefore need efficient and safe handling facilities. Two years ago they decided they needed to replace their cattleyards which were slow and unsafe to work in.

"We wanted to improve the OH&S compliancy of the yards for those working in them," Nigel explained.

"But we also kept low stress stockhandling principles in mind when designing the new yards.

"While we knew what we wanted and what would work for our operation, we took nine months to discuss and finalise the yard design with Heath Cole from Proway Livestock Equipment in Wagga Wagga.

"Proway then built the 1800-head working capacity yards for us, using steel cattle rail and cattle cable."

CLEVER DESIGN

There are two Bud boxes (a Bud box is a small yard placed just before a race way or crush) incorporated into the design of the Kerin's yards – one in the lead up to the loading ramp when trucking cattle out

and the other is used to load cattle into the working race and five-way auto draft.

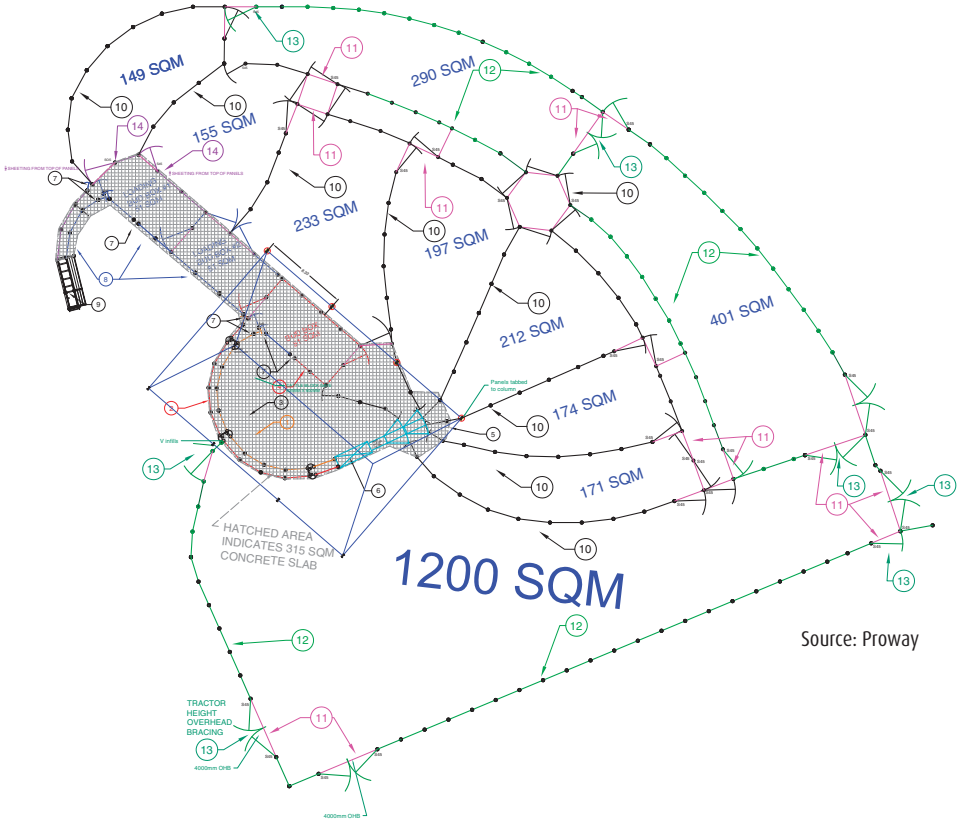
"The Bud boxes work brilliantly and allow a single operator to work cattle with minimal stress to both the handler and animals," Nigel explains.

"Our yard design also has a unique but very effective internal laneway system in a half-moon shape, that links every yard. This saves considerable time when handling cattle and does away with the need for any walkways for operators."

Other time saving features include an air-operated five-way Thompson Longhorn auto-drafter, air-operated gates and an air-operated Thompson Longhorn crush.

"All these features are full autonomous and can be operated by a remote control carried by the stockhandler," Nigel says.

"This means one person can draft 400 head five different ways in just one hour. The design is so efficient it has totally transformed the speed of our operation. Its simplicity means anyone with or without experience can handle cattle efficiently and quietly. Other features such as the roof over the working area mean the yards are a pleasure to work in."



Source: Proway

JUST DO IT

The Kerins have not had to make any changes or adjustments to the yards since they became fully operational. They say this shows it was worthwhile taking the time to get the design right initially.

"Our advice to other producers thinking about building cattleyards is to just get on and do it," Nigel says.

"It may seem like you can't afford to build new yards now, but it will be even more unlikely in 10 years. The payback received through lower stress to livestock and improvements in efficiency and safety to staff can't be underestimated.

"If borrowing costs remain at about 4-5 per cent, the return on what is going through the yards is about double this, which makes safer, more efficient yards all the more worthwhile." FA

Contact:
Nigel Kerin
0427 464 070
kerinag@bigpond.com

Single handed: The Bud boxes incorporated into the Kerin's cattleyard design allow a single operator to work cattle with minimum stress. Photo: Patrick Ryan, Proway