☆ Feature

*Few people have questioned why people are living longer lives, yet cows are dying younger.*

*Until now.*

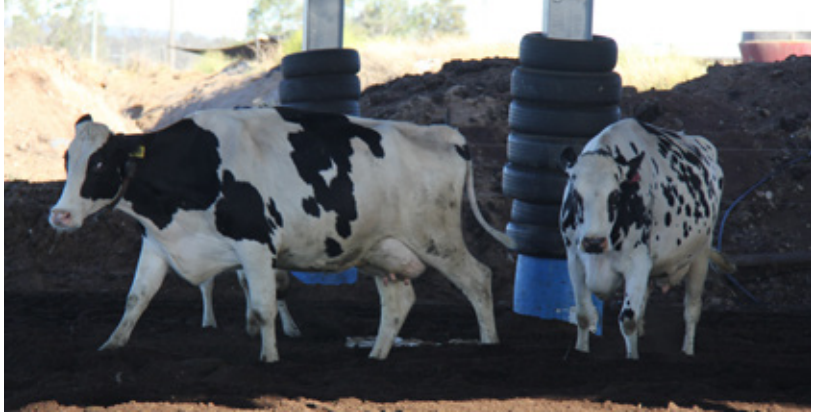
*The statistics are confronting. The world's productive average age of cows is falling and now hovers at just 2.5 lactations. It takes two lactations alone for cows to repay their rearing costs. The top 1% of global producers can average six lactations per cow.*

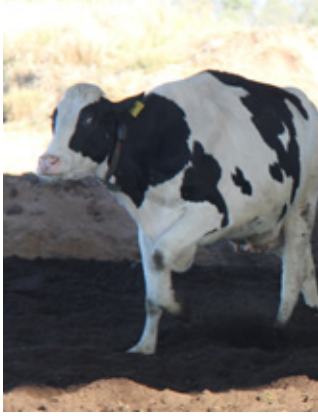
*Among these confronting stats are that 80% of the world's cows have some kind of hoof lesion1. In the USA in New York State alone, 55% are listed as lame2 and mastitis also impacts on 33% of the world's cows every year3.*

*Sadly, most of the blame has been laid firmly at the feet of housing and/or management in a hard and fast 2014. Because today, in a disposable world with low milk prices, cows are often no longer members of farming families teaching children valuable life lessons about respect and care. They are instead ... disposable.*

*Dutch-based company CowSignals, is changing that by 'listening' to the cows and making subtle shifts in operations in 55 countries — including Australia. It's achieving big turnarounds in cow comfort and bottom lines.*

*One Dutch farmer on the CowSignals programme recently won an award for his exceptional cow care after having to treat only one quarter for mastitis in 12 months within his 110-cow herd...*





# Progress IS CUTTING COWS LIVES SHORT

A South-East Queensland farm has been one of the first Australian farms to find out what a difference CowSignals can make.

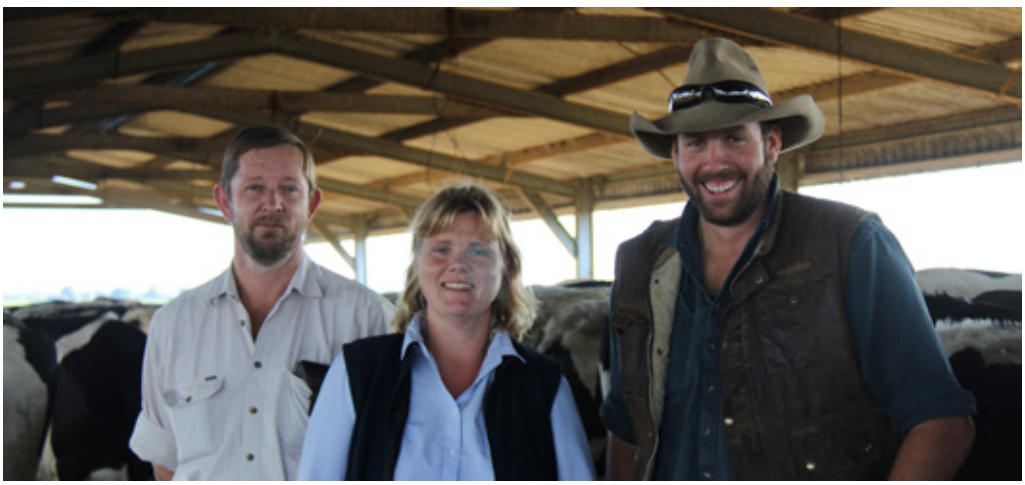
Graham and Christine Duncan, together with their son Steven and his wife Genevieve, milk 180 cows at Glenore Grove, an hour-and-a-half outside Brisbane. Their challenging humid sub-tropical environment, on top of pressures on the Queensland milk industry, staffing costs and unreliability, have pushed this family hard to make ends meet. They could have easily given up so many times.

But today they're engrossed in getting this operation into the financial position they so desperately need. They put their balls to the wall, investing in three Lely Automatic Milk Milking Systems (AMS) 18 months ago, to upgrade their out-dated dairy. However, they found they were still fighting lameness, mastitis and the associated stress of the change when the 2013 floods hit them a month after installing the AMS.

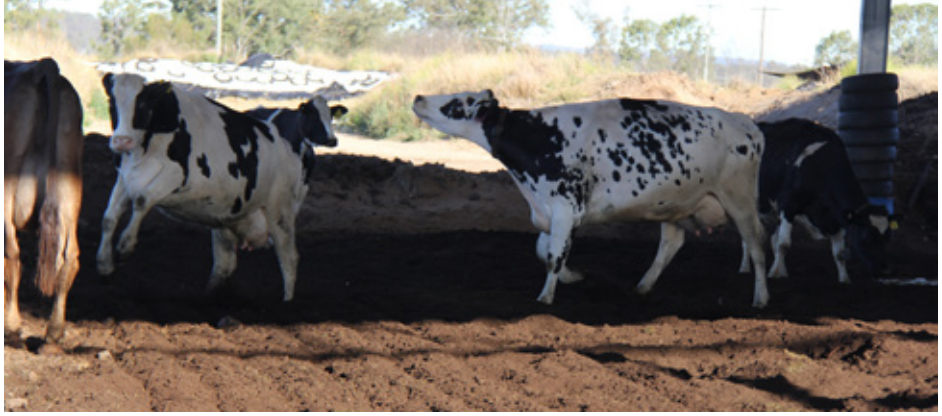
**Everything turns to...**

Steve Duncan, 33, says, "I'm sitting here with 230 cows on the 20 acres [8.08 hectares] that was above the water line, and then 25 stranded dry cows decided to swim home. I had to swim out there and cut fences so they could make it. We have black soil here and they turned the paddock into a pig sty. We were battling to get our SCC under 300,000.

"We still had some animal health issues because the cows were living in a feed-shed with a concrete floor. They had sore feet, they were dirty and we hadn't broken the mastitis chain. In this hot climate a rain event turns everything to shit, basically. It doesn't matter how much you clean it. It's always going to be muddy and shitty and very expensive to manage.



*William Scott and Kamilla Breinhild (left and centre) turned Steven Duncan's (right) operation around by making the cows comfortable. The couple train and advises farmers Australia-wide about how better animal husbandry practice stops disease and improves cow comfort.*



"We did have outside loafing areas available for the cows, but they wanted shade and it resulted in a lot of cows spending most of their day either lying or standing on concrete."

**Bank had no data for cow comfort**

"When we were looking at robots, we also considered cow housing but with the way banking institutions are they don't really understand animal health, or the cost of the business, or what costs can be saved by creating a much more comfortable environment.

"We were directed by the bank manager that they were happy to fund us into the robots, but not into the housing of our cows. Because there was not the data out there or the knowledge base about how critical it was."

**Signalling for help**

Enter William Scott and Kamilla Breinhild. The Queensland-based CowSignals Certified Master Trainers and nutritional consultants are employed by veterinarians SBScibus (Camden, NSW). The pair (Rhodesian and Danish, respectively), are passionate about giving cows a longer and better life while helping farmers make more money.

They knew the herd was in trouble. Critically, there was no clean, soft, dry loafing area for the cows to rest. They knew the herd could make an additional litre of milk per cow for every extra hour of rest they could get. But there was no way cows were getting close to the ideal 14 hours of rest a day.

They didn't have enough space to soften the stress of it, and their immune systems were under all sorts of strain. The lameness and mastitis was still concerning — despite the robots.

William and Kamilla urged the family to invest in a loafing barn because the cows needed shade to cope with the heat, and dry beds to combat the humidity and bacteria. It meant more capital investment and things were already stretched. But everyone decided it was a deal breaker, and the family came together to make it happen.

"It was make or break for us," Steve, 33, said. "We either had to lift production 10-15% or the bank would come and take it, and I thought, 'good luck to them', because we had done everything we could. We were having a fair go."

**The shed goes up**

So they built a 1600 square-metre shed, bedded with deep, soft shavings. Shavings are turned twice daily with the tractor, and the cows easily sink up to their dew claws in it.

The reaction was immediate and heart-warming. The cows played, soon sat down and shortly afterwards began chewing their cud. To save costs, the Duncans did not build the shed as a single span, rather they included additional pillars. They solved the problem of the pillars' sharp edges by threading them with tractor tyres — which the cows have since turned into rubbing areas. Space allowed is close to 10 square metres a cow.

The shed has a five-degree pitch on one side and 12-degree pitch on the other, so they can achieve an overlap with a 2m overhang and 1m gap between the two. The breeze and air flow allows the area to dry and keeps the cows comfortable.

Steve says to see the cows happy was a revelation and relief.

The other major issue was the wash-down water in the AMS. They were using both rain and bore water and rigorous testing revealed it was laden with bacteria. They have since installed UV filters to deal with that.

*Deep, clean and dry bedding is a significant part of any successful formula.*


*Keeping on top of management is an ongoing project.*

**References:**
1. Flower F.C. (2006), PhD thesis, University of British Columbia.
2. von Keyserlingk et al. (2012). "Journal of Dairy Science" 95:7399-7408
3. Williams C.C. (2009), "Louisiana Agriculture"

**Footnote:**
William Scott and Kamilla Breinhild are employed by SBScibus at Camden, NSW. They are both Certified CowSignals Master Trainers and available to visit Australian herds.

William Scott - Higher Diploma in Agriculture from Zimbabwe (formerly Rhodesia); 25 years' experience in the dairy industry, including the UK, South Africa, Zimbabwe, Botswana and Kenya as a farm manager and dairy consultant.

Kamilla Breinhild - BSc and MSc in Ag Science from Denmark. Certified CowSignals Master Trainer. Mobile: 0447 267 064

**Just trust the cows**

Steven said they didn't trust the cows to come back to the robots voluntarily, so they had all manner of intricate triggers and drafting systems that were exhausting the herd and the family. William and Kamilla advised them to open the gates and trust the cows.

It was a big call.

It worked.

"To say we were exhausted is probably the understatement of the century," Steve says. "Tempers were certainly getting a little frayed.

"They [William and Kamilla] turned us around. They helped us make the right decisions for cow comfort and our net gain. Production lifted one litre a cow within three days, and another two litres a cow within a month. The ruminations [minutes/day cows chew their cud] have already lifted by 100 minutes, and we are delighted with that result. Healthy cows will ruminate as much as 500 minutes per day, and we are getting close to that target across the whole herd."

**Gold Coast hotties**

Steve says they've only had one new case of mastitis in the past month.

"And I'm noticing that the cows are having much stronger heats."

He smiles, adding: "I call them the 'Gold Coast cows' because they can't get enough!"

**Production vastly improved**

"Before Will and Kamilla came in, the cows might have been producing well, but I know now they were about to fall over. It would have been expressed in falling fertility, production, mastitis and sore feet. It's not only about the final result with milk production. It's also about the stress cows feel and how that relates to the rest of our herd health profile, production and reproduction over a period of time."

Today the herd is averaging 32 litres, with 3.2% protein and 4% fat; 40% are two-year-old heifers. The farm covers 64.6ha (160ac) on the home block, and has a 40ha (100ac) irrigation block and an 80.8ha (200ac) dryland block 30 kilometres away. They grow 1000 tonnes of dry matter (on 42.4ha (105ac)) at home and 600 tonnes of dry matter on the irrigation run-off block, which also carries their replacement heifers.

Steve says, "Our goal is to produce two million litres a year from 180 cows, milking year-round [11,000 litre average]. I want to develop the volume of milk from each cow's lactation and I want the cows to live longer and be more productive. I'd like to compete with stud breeders with my commercial herd."

**AMS identified sleepers**

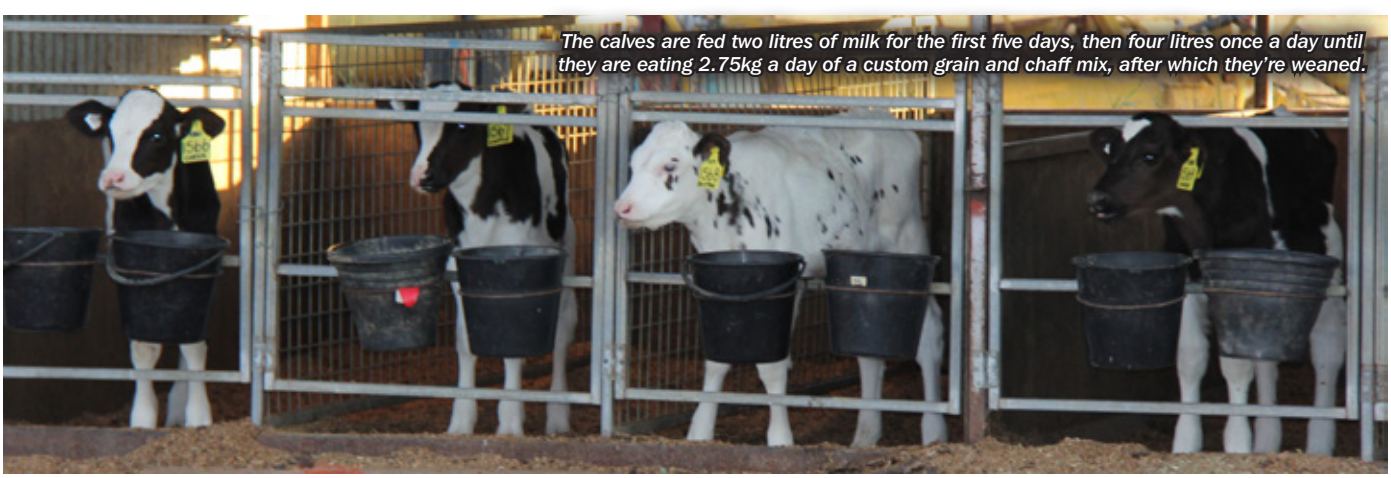
The cows have the frame and the genetics (he uses Wyatt AB to help him make joining decisions) to justify using robots, and the additional individual information the robots have given Steve on each cow has also been positive. He has already begun to identify flat lactation curves with longevity.

"I knew who the top 10% of our high production cows were, but there were a few cows that started the season milking 38-40 litres and finished doing close to the same amount — and a few of them surprised me," he says.

Now Steve has the rest of the infrastructure coming together, he is starting to smile again.

"I'm terribly conservative, but everything is starting to go really good," Steven said. "Now it's my responsibility to manage it to its maximum potential."

Part of that includes managing the traffic jam at the robots at some time-shoulders of the day. They


*The calves are fed two litres of milk for the first five days, then four litres once a day until they are eating 2.75kg a day of a custom grain and chaff mix, after which they're weaned.*

recently installed lighting in the loafing barn and music, timed to come on at 2am. Steven said they want to try and encourage cows to head to the robots then, so there aren't so many cows waiting for access at peak milking times.

**Queensland the challenge**

It is no secret that Queensland has become a challenging place to milk cows. Dairy farms have dropped from more than 1400 to closer to 400.

Steve says they are getting 55c a litre from processor Parmalat. Their cost of production (COP) is 56-57c/litre. Grain costs $350 -$380kg/tonne. Nearby Chinese buyers are a constant threat to grain pricing.

The Duncan family has fought hard to be part of it. One could ask why processors are not more supportive?

"There are some bloody good farmers gone out up here," Steve said. "Everyone is on the edge – big and small operators. The debt level people are carrying has had a massive impact. But the guys with no debt are also deciding to get out – because they don't want to go into debt just to work hard milking cows. Even though the industry has been good to them in the past, they are not prepared to sacrifice that equity to go backwards — and who can blame them?

"It's expensive to produce milk in the hot months. Maybe there is an argument for milking cows for 10 months of the year in South-East Queensland, but with robots we need to be milking 24 hours a day, seven days a week, 365 days of the year."

Steve says he thinks the answer is the fresh milk market. He also thinks the export market to Asia needs to be developed.

"It's not going to happen overnight, but there are definite rumblings about it."

## *Everyone knows prevention is better than cure*

Now prevention has a value in the dairy industry. Dutch company CowSignals, which was founded by veterinarian Joep Driessen, seven years ago, has proved there is money to be made from looking after cows well. His programme is active in 55 countries, including Australia.

Essentially CowSignals is about common sense, observation and stockmanship. But in a fast world with limited time, quantifying some basics and finding pressure points in operations using fresh perspective is saving cows' lives and making money for producers.


Joep and his CowSignals team run interactive courses for farmers, teaching the skills to make working with cows a pleasure again. It begins with a health chart. CowSignal trainers recommend getting the ball rolling by dealing with water, light and air issues first because they do not cost much and they give the cows an easy opportunity to make more milk. The extra money from that small change can then be used to improve feed, space and rest – the real game changers.

Joep says, "Most farmers say they have 'no time and no money'. But it doesn't cost much to fix any water, light and air issues. Then you can get more money for your milk and use that to invest in the other changes.

"Cows deserve a longer and better life. Farmers deserve more money for their milk and we have to work together to save the world."

In isolation, many of the changes can seem insignificant. But when they are put together they have the power to turn an operation inside out. The biggest stress for a cow has been identified as before and after calving. More than 75% of cows that get sick do so within the first month of calving. Allowing enough personal space, along with deep, clean beds in the calving pens can change that by protecting their immunity status. Stress-free stockmanship is also an important factor, and training is vital — especially given the number of larger corporate farms with high staff turnover and less experienced employees.

In Europe, the top herds average 60,000 litres lifetime per cow. In Australia, that figure is unavailable — and is probably much lower. The most productive years of a cow's life is between her fifth and seven lactation. Sadly, few ever see those lactations.

Most free stalls are 1.7m long, yet big cows are 2m long from their knees to their tails. So for many cows around the world, their living area is like humans living in economy class on an aeroplane forever.

Joep says, "In Switzerland, they have the happiest cows in the world. Because by law, their free stalls have to be 1.90-1.95m long and 1.25m wide. That has been a big factor in their success because cows are not getting wounded. You need rules and you need tools.

*Looking and really seeing cows is a fading art. This cow has six obvious triggers that she is unwell and stressed. Can you find them? The answers are listed at the end of the story.*

"Cows are herd animals. They want to eat at the same time and they want to lay down at the same time. You will notice this in paddocks. In a free-stall situation, they need enough feeding space to do this without feeling crowded or you end up with 'waiting' cows, which is no good for any operation."

The best designed barns and/or best run pasture operations have less than 2% mastitis and lameness in a year. Most of that has been attributed to soft bedding, a grip on the floor, the opportunity for the whole herd to feed together and a stress-free calving area.

"Please listen to the cow," Joep said. "Taking care of the cows is taking care of yourself."

**Summary:** Standing cows are a farmer's best management advisor, because they are trying to say something. This cow is in trouble. The critical signals are that she is lame, injured and has an empty rumen.

***Cow Signals:***

1. *She is lame (rear left leg) and her arched back confirms it.*
2. *She has not eaten for the last six hours. Note the hollow 'danger triangle' just in front of her hip. It indicates an empty rumen (rumen score 1).*
3. *She is injured from living in too small a free stall (see the bump on her spine).*
4. *A more subtle sign is that she is a "waiting cow" doing nothing. Ideally, she should be eating, socialising or resting.*
5. *Her coat is dull.*
6. *Her eyes are slightly sunken, indicating stress or potential dehydration.*