



Farming Connect Management Exchange

Abi Reader

Investigating BVD eradication and Biosecurity

Germany, Bavarian Region

May 2018

Main host: Professor Klaus Doll, Clinic for Ruminants, Faculty of Veterinary Medicine, University of Giessen

Breakdown of the visit:

Day 1) Land in Munich, travel to Wurzburg, close to farm that will be visited the following day

Day 2) Visit Mr Schneider, Grundau, 650 cow dairy herd

Day 3) Visit Ruminant Clinic, Giessen University
Visit Diehl & Schlosser, Grunberg, 250 cow dairy herd

Day 4) Meet with Dr Malte Loholter, Boehringer Ingelheim, Frankfurt, to discuss vaccination
Travel back to Munich

Day 5) Meet with Dr Ingrid Lorenz, Bavarian Animal Health Laboratory to discuss BVD control planning

Photos and Press article attached at end of report.

Trip findings:

German BVD Programme

Historically, Germany has a good history of disease eradication being already free of TB and IBR. This puts them in good stead to fight other diseases. Once they are free of BVD, they will move on to Johnes with plans already being drawn up.

The BVD programme started in 2011 following a sharp increase in disease issues on farm. Bulk tank tests had shown that 80% farms were found to be seropositive for the disease by 2010 (i.e. the animals had at some point been exposed to the disease), which is very high.

The scheme requires calves born from 2011 onward to be tagged and tested. The programme is a state programme, just over half being funded by the government (approx. 3 euros/hd) and slightly less by farmers, although you could argue that farmers would already have to pay the price for a standard tag. Farmers make payments via a compulsory levy to an 'insurance' fund. This fund then pays for the tag and test and farmers can choose what tags they want to use. There is no monopoly but there are only 3 suppliers. Tags can be tested by PCR (more sensitive) or ELISA. All calves are double tested i.e. tissue sample taken on both tags. This is done in case the first sample isn't correct and saves time wasted for re-testing.

In 2011, all calves born were tested and 2% of these were found to be PIs (approx. 8000 calves). In 2018, this number has decreased to 81 calves. In 2016, Germany also made it mandatory to tag dead calves.

The Animal Insurance Scheme now looks upon the fund as expensive since the disease prevalence is so low that the cost per PI found is now extremely high. Therefore, there is a push to end tag and test and move to 5 bloods monitoring, similar to Wales. There is some resistance from academics as they believe that this system is not robust enough to maintain low prevalence of disease. It is widely believed that the tag and test method is the best and fastest means of keeping BVD out of a herd. However, one flaw of tag and test is that everything is not tested on the same day so there is a chance of transient infection spreading even if PIs are found.

Biosecurity

Vaccination

Vaccination is considered to be very important in the fight against BVD. In Germany, vaccination is carried out by the vet so it is felt this limits the human error that can occur during a vaccination process. Vaccination helps address the key issue that once you have eliminated PIs the herds become seronegative and therefore more vulnerable to infection. So, they must either be vaccinated or have tight biosecurity. Problems arise when you cease vaccinating. Ceasing to vaccinate is often done because the farming business feels there is no longer a threat. It is often overlooked that the reason there is no longer a threat is because of vaccinating.

Animal Movements Challenges

Germany is a country with 16 regions. These 16 regions do not make up an island, they border different countries on different sides and this brings challenge for keeping disease out. Approximately 100,000 cattle every year pass through Germany, many from Turkey.

People on farms Challenges

There is little concern over general public being a disease risk as they are highly unlikely to come into contact with infection at an external source. However, those coming onto farms from other farms are a risk, vets in particular as they have the most contact with stock. An example was cited where one vet rubbed his sleeve in the nose of a PI calf, he then tested

the sleeve and found the virus present. People coming onto farms from other farms should be provided with clothing. Disinfectant is considered ineffective.

Other measures:

- All tissue testing is mandatory within one month of life.
- A PI is denied a passport and immediate culling is mandatory.
- Any herds found with PIs are placed under movement restrictions for 40 days or if pregnant cattle are present then the cow(s) must calve and her calf must be tested free unless the herd has been vaccinated and tests seropositive after 150th day of pregnancy.

In spite of all this, is it possible to experience a BVD outbreak on a farm without a PI as a result of human or animal contact which is why biosecurity is so important in addition to any BVD eradication programme.

Some of the problems identified on farms

- Isolation period after PI is detected can be difficult because many farms do not have sufficient housing and the care capacity to keep them separate.
- Some farmers do not understand the effect of BVD and often get it mixed up with IBR because the letters are similar in their language.
- The only visitors to be wary of are those going from farm to farm – vet, AI technicians, farming neighbours, feed reps and others.

Bavarian Animal Health Lab

What sort of lab is this?

Independent, private lab, not for profit. The majority of funding comes from grants. This lab took 80% of BVD tag and test businesses at the offset because they were interested in why farmers might choose one lab over another. It identified that farmers wished to avoid lengthy paperwork and filling out and posting envelopes. Following these findings, the lab worked with two tag companies to develop package labelling that avoided the need for paperwork as well as providing a pre-addressed envelopes. It also worked to change the law so that if preferred, the tag and test samples could be picked up by the milk lorry, allowing daily collection and faster sample turnover leading to potential PI being identified quickly. The two different tag companies use different testing equipment. This lab made sure it had both set of equipment in place. The tag and test take two ear samples just in case one goes astray.

Main message: A country must have a common approach to disease.

Animal Transport and Disease Spread

In spite of border checks, animal movements are the biggest threat to disease. Germany sits under article 10 animal health for TB and IBR – i.e. it is declared free of the disease. This allows the country to put up non-tariff trade barriers to prevent other animals that may put this status at risk from coming in. BVD in Germany is on status Article 9 – i.e. the government is actively doing something to control the disease but is not yet free of it. Germany will most likely move on to Johnes once BVD is under control.

In spite of article 10 status for IBR, Germany has had a few isolated outbreaks in 2017 and 2018. The first outbreak was linked to animals imported from Austria which is also declared IBR free under article 10. The second outbreak was from animals imported from Scotland which was previously tested IBR free.

Biosecurity is deemed hard work by farmers but they should not underestimate the value of providing on farm clothing. In spite of this, during both farm visits the host farmer did not offer clothing. There is a disconnect between what vets understand and what farmers understand.

Main conclusions:

- You will never completely eradicate the disease but keeping it at a low enough level e.g. 80% or more free, should be enough to hold it at bay as long as there is continued regular disease monitoring and controls in place.
- Pursuit of disease eradication is only possible when looked at with a whole country approach. Ideally, everyone (different regions) need to follow the same approach in order to eradicate the disease faster.
- Disease control must include vaccination.
- Speed is essential – quickly getting onto farms and removing PIs greatly reduces the risk of further spread. Ideally, a calf is identified and removed in 14 days or less.
- Farmers are unlikely to volunteer to do much disease control unless it is an identified problem on their farms. This is largely because farms are businesses and it is often difficult to calculate the cost benefit of eradicating each disease.
- Basic biosecurity should not be underestimated. Every farm should provide boots and overalls for visitors coming from other farms to minimise introducing new infection.
- Cost for eradication should not be higher than cost for disease.
- Animal movements are the biggest threat for disease spread. Humans are the next biggest threat.
- A country that can make itself officially free of disease can put in place non-tariff barriers to protect itself.
- In Germany, the BVD eradication programme was designed to test for PIs and cull them out to stop spreading disease. However, it is still possible to spread BVD without presence of a PI so testing and eradication protocols are only truly beneficial if they are backed up by biosecurity measures.
- Farmers are not veterinarians, they are animal managers and business people. They do not have the science background and this is overlooked and underappreciated when 'experts' discuss control and eradication of disease. There are too many

experts discussing disease on a different plane to farm experts. This gap has to be narrowed.

Outcomes:

Will I make changes on my farm as a result of what I have seen? And if so, what?

Yes. I will get basic biosecurity measures in place to safeguard against any chance of disease being brought onto the farm by people, including buying wellies and overalls of different sizes to accommodate visitors. I will also look carefully at our vaccination protocols for all diseases and consider if these are being implemented properly to minimise the chance of vaccine not working.

How can I contribute back to the Welsh agricultural industry in terms of what I've learnt?

- 1) Share my report with anyone interested
- 2) Try to speak to groups of farmers about the trip
- 3) Use my position on numerous groups to spread information about my findings, e.g. member of Wales Animal Health & Welfare Framework Group, Chair CHeCS, and Vice Chair NFU Cymru Milk Board. This includes inviting Dr Ingrid Lorenz to the UK to further discuss disease control with interested parties and setting up talks with Boeringher Ingleheim and MSD (two BVD vaccination manufacturers) based in the UK.
- 4) Feed into the Gwaredu BVD Programme

Further thoughts on Management Exchange Programme:

It is very difficult to arrange a trip to another country without appropriate contacts. It is even more difficult when there is a language barrier. However, it is surprising how many people are willing to help, you just have to find the right people.

Taking time out of the family business, especially if you have a significant role in it, can put a lot of pressure on everyone involved. At its very basic get insurance in case things have to be cancelled last minute. Think very carefully about when to book to avoid busy periods but be prepared for the fact that weather changes can ruin the best laid plans. Make sure everyone in your team knows very early on that you are going on a trip so protocols can be put in place if the timing turns out to be wrong.

No matter what you think you are going to learn, you will learn so much more and make new friends along the way.

Pictures:

Picture 1: First Dairy Farm Visit. Left: Mr Schneider, Prof Doll, Abi Reader, Representative from Animal Disease Insurance Scheme



Picture 2: Second Dairy Farm Visit. Left: Mr & Mrs Schlosser-Diehl, Abi Reader, Prof Doll, Dr Loholter



Picture 3: Dr Loholter & Abi Reader, Boeringher Ingelheim



Picture 4: Bavarian Animal Health Lab



Grunberg Press Article (translated)

For the benefit of cows

Visit: Farmer from Wales informs Grünberger dairy farm / talks about antiviral program

By Emanuel Zylla

When Abi Reader, a dairy farmer from Wenwoe, Wales, received the title 'Woman farmer of the year' in 2016, she said modestly to the BBC: "When you do the things that I did, then think you do not really care to get an award at the end. I was about doing something in agriculture." The Welsh farmer, who is passionate about animal welfare and her profession, wants to increase her knowledge visited a German dairy farms, namely the family business Diehl and Schlosser in Grünberg. She accepted the invitation of Professor Klaus Doll, a veterinarian of the Justus Liebig University and an expert on diseases in ruminants. Abi Reader was particularly interested in German practice in terms of dealing with the BVD virus (Bovine Virus Diarrhea). Since Doll held lectures on the subject in England in recent years, she approached him.

The disease is one of the biggest infections in cattle. As a result, in addition to the suffering for the animals, it also causes significant economic damage to farms. "We have a national control programme in place since January 2011," said Doll in conversation at Upper Ziegelhütte, property of the Schlosser and Diehl family. "The cattle are examined directly after this virus when creating their two ear tags. All German calves must be examined accordingly," the professor described the protocols. When tagging, the skin punched out is sent to a laboratory to be tested. "For us farmers, this is no extra work, because the calves have to be marked in the first seven days anyway," added Melanie Schlosser-Diehl. The possibility of early detection of the virus eventually led to a decline in the mortality rate in Germany. However, there are still about six BVD outbreaks per month. During a tour of the estate, Abi Reader was able to get an idea of the German version of the control programme. Doll also highlighted "different worlds meet". In Britain, the farmers would first have to be convinced of a control programme and discuss in advance with all stakeholders. With us it would simply be decided, implemented and everyone would have to stick to it. This could explain why it takes a bit longer for the British, although the programme has had a proven positive effect on dairy cattle breeding. Now it remains to be seen if Abi Reader, with this new acquired knowledge, can achieve a change in Britain.