

Case Study

PESTIVIRUS IN A MOB OF POTENTIAL EMBRYO RECIPIENTS

VETERINARIAN/PRODUCER

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Stuart is a veterinarian specialising in bovine embryo transfer. Stuart has a wealth of knowledge regarding bovine reproduction and is well versed in bovine reproductive physiology.



CASE REGION OF ORIGIN

Southern Riverina, NSW.

CASE BACKGROUND

In 2020 an embryo transfer client purchased 65 PTIC angus heifers. The heifers had been scanned in calf with a long 10 week joining period. The heifers, once calved, were to be used as embryo recipients 70 days post calving.

The client employed a Pestigard program within their herd, however, chose not to vaccinate the purchased cattle on arrival.

I received a phone call from my client that only 6 of the 65 heifers had calved in the first 6 weeks, and they were all within the first week of the calving period, for this reason the embryo program was cancelled.

Following up with the client 4 weeks later, they revealed the remaining heifers all calved within in the last month of the calving period.

With the heifers no longer being fit for purpose and the cancellation of the ET program, the client proceeded to join the heifers naturally. This occurred approximately 7 weeks later than their usual joining date designed to utilise their pasture production curve efficiently. Missing their optimal joining window and in turn disrupting the production cycle of those animals and the productivity of their progeny.

CASE INVESTIGATION

As part of an unusual reproductive calving pattern, we conducted pestivirus testing (among other tests) on both calves and cows.

All calves were ear notched for antigen testing, while 15 cows were blood tested for antibody testing to check exposure.

The results revealed recent infection within the cow herd, mainly 2 and 3 antibody scores.

Of the 65 calves, 10 (15%) were identified as persistently infected with pestivirus.

The dams of the persistently infected calves were blood tested for antibody and antigen levels. One cow with a persistently infected calf was found to be antibody negative and antigen positive, clearly indicating she was persistently infected herself, and the likely source of the recent infection amongst the purchased heifers.

“Monitoring with vaccination is an important part of overall reproductive herd management, together with bull testing, nutritional management and selection pressure on fertility”.



Always on guard

zoetis

“All cattle enterprises undertaking high value breeding programs need to manage the risk of pestivirus by screening both donors and recipients for pestivirus and implementing a Pestigard vaccination program to protect the pregnancies”.

After the owner researched the history of the heifers, it was found that the heifers had been bought from 3 different properties and all became a single mob when the bulls were put out. All three properties of origin of the purchased cattle were located in the Western Districts in Victoria. There was no history of Pestigard vaccination in these heifers.

Interestingly, of the 11 persistently infected animals, only one had a persistent cough, while all others appeared normal on physical examination at the time of diagnosis. All PI animals were sold at weaning as terminals. As time progressed, of the animals that were PIs further animal health issues began to arise likely a result of the immunosuppressive effects of the disease these included:

- 2 calves had developed persistent coughs
- 1 calf had multiple random subcutaneous abscesses
- 1 calf had a developed foot abscess

Antibiotic treatments were administered adding further costs and labour pressures to the issues.

IMPACT

This case resulted in immediate and longer-term impacts for my client across a number of elements:

- **Purchased heifers** – the original heifers were no longer fit for their intended purpose due to a late and prolonged calving pattern. This had further ramifications for the ability of these heifers to conceive and calve in subsequent joinings and production ramifications for their progeny being born out of alignment with the pasture curve. In addition, the PI heifer was culled and sent to slaughter resulting in a financial loss with the price differential as it was sold at a discount as a terminal.
- **PI calves** – of the PI calves 4 developed health problems likely a result of complications resulting from pestivirus. Surprisingly, all lived to the point of weaning. All identified PI animals sold off the farm as terminals at a reduced value resulting in an opportunity cost for my client.
- **Progeny Productivity** – within the remaining healthy progeny the 6 week late calving resulted in less calves being born within the optimal window resulting in reduced pasture utilisation. As a result,

these animals were lighter than expected at the targeted sale date and were carried over into the following season increasing cost of production. In the female portion, target mating weights became difficult to achieve. The rough cost of the 6-week delayed calving at a moderate growth rate of 0.5kg/day and a 2020 EYCI price of ~\$4/kg LWT:

– 0.5kg x 42 x \$4 = \$84/hd in reduced gain

– 59 calves x \$81 = \$4779*

* this does not account for PI reduced productivity

- **Compounding costs** – further costs can be added including treatment costs, discounted PI sale cost and the breeding cycle disruption to the remaining 64 cows. On top of the opportunity cost of the cancelled ET program.

KEY LEARNS

This case highlights the importance of disease monitoring and vaccination. In the case of monitoring, we cannot manage what we haven't measured.

Monitoring with vaccination is an important part of overall reproductive herd management, together with bull testing, nutritional management and selection pressure on fertility.

All cattle enterprises undertaking high value breeding programs need to manage the risk of pestivirus by screening both donors and recipients for pestivirus and implementing a Pestigard vaccination program to protect the pregnancies.



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