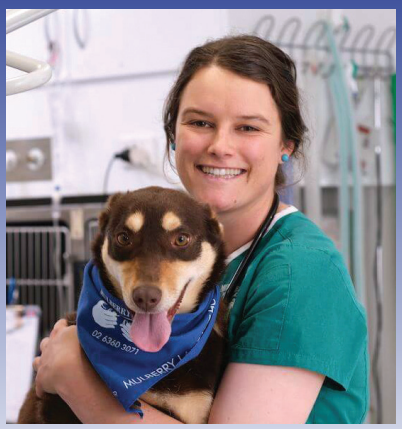
Case Study

PESTIVIRUS TRADING INCURSION AND POST DROUGHT REBUILD



VETERINARIAN/FARM CONSULTANT

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Hannah works as veterinarian and farm consultant throughout NSW in her role with Emerge Ag helping clients with herd health, management systems and enterprise efficiency. She is well versed in livestock veterinary medicine and beef enterprise dynamics.

CASE REGION OF ORIGIN

Central West, NSW

CASE BACKGROUND

The enterprise in focus operated as an intensive pasture-based beef enterprise across ~1500 ha in Central West NSW. The business operated with a breeding herd base of 6–700 cows with trade animals purchased annually for backgrounding to utilize available feed and allow rapid destocking if conditions were in decline. The property traditionally backgrounds 5000–7000 home bred and trade animals annually, season permitting.

From 2017–2019 the property experienced severe drought and undertook extensive destocking. Only the core breeding herd remained of approximately 250–300 cows.

When the drought broke and conditions improved significantly the business embarked on an intensive trading operation that initially saw 4–600 angus cows and calves arrive on property before going into backgrounding steers/heifers.

This case investigates an unidentified incursion of pestivirus onto the property and the subsequent ramifications on a cohort of impacted breeders.

CASE INVESTIGATION & IMPACT

In July/August 2020, x70 restocker Angus and Angus X heifers were joined to Angus bulls over a 4 week joining period.

At preg-testing, 44 heifers were preg tested in calf resulting in a 63% in-calf rate. Of the 44 pregnancies the resulting losses were experienced:

- 12 calves (27%) were still birth or born weak and died within 3 days.
  - Cost/opportunity cost – at the time, assume $800/hd difference between heifer with calf @ foot and empty heifer. Lost opportunity of $9600.
- 6 heifers (14%) did not calve – assumed aborted.
  - Cost/opportunity cost – at the time, assume $800/hd difference between heifer with calf @ foot and empty heifer. Lost opportunity of $7200.
- 26 heifers (59%) calved normally.

> **"This case investigates an unidentified incursion of pestivirus onto the property and the subsequent ramifications on a cohort of impacted breeders".**

"Pestivirus should be managed through biosecurity, use of the Cattle Health Declaration to assess disease risk in purchased stock and an effective vaccination program".

Further losses were experienced in the 26 surviving calves, compounding the severity of the disease outbreak and losses. Of the surviving calves:

- 3 calves (11%) went onto develop visible BVDV mucosal disease, including ill thrift, poor body condition and mucosal ulcerations of the tongue and mouth.
  - At the time, the lost realization of a 400kg heifer was $1800. Lost opportunity of $5400, without accounting for cost to carry.

This represents an estimated total lost opportunity of up to $22,200.

A disease investigation was initiated. BVDV was diagnosed via hair sample on a weak calf born with pronounced hydrocephalus*.

*** Hydrocephalus is a congenital malformation caused by an increase in volume of the cerebrospinal fluid (CSF). When born alive, affected animals often have a characteristic dome-shaped head, and may also have inappetence, seizures, lethargy and altered mental status.**

After initial diagnosis, a District Veterinarian from the Local Land Services District blood tested all the nd progeny for antibodies (exposure) and virus (persistently infected). Several PIs were found amongst the cohort.

Traditionally the Angus X heifers were kept separate in a different breeding mob but due to the drought, had been boxed in with the Angus heifers. This is where the pestivirus infection has been thought to have been introduced to the purebred Angus heifers. Coincidentally, the owners remarked that conception rates in the Angus X heifer cohort were normally low every year with a historic average of 80–85%, I believe this may indicate a breeding PI/s creating endemic disease pressure in this mob annually and eroding herd performance.

Due to the enterprise dynamics of the property and the significant volume of trading, the origin of the pestivirus infection was never isolated.

IMPACT

In my experience, a reasonable expectation of pregnancy rate for a 4 week joining period should be 75% in calf. Of those preg tested in calf should also be able to expect a 92% calving and calf survival rate. In this case that would have resulted in 48 calves, instead as a result of complications arising due to pestivirus we ended up with 23 calves. Less than 50% of what was reasonably expected.

The economic impact of the pestivirus incursion was significant. Market prices at that time saw an $800/hd difference between a non-station mated two year old heifer and a 2 year old heifer with calf at foot. This works out to be a ~$20,000 opportunity cost not to mention all the intangibles including:

- loss of genetics
- poor pasture utilisation
- supplementary feed costs
- veterinary and diagnostic services
- increased labour
- the distress of dealing with and humanely disposing of disease and malformed

If progeny were to be grown out this opportunity cost could possibly be exacerbated further by a compromised immune system increasing the risk of respiratory disease, pink eye etc.

As a result of this disease event, the business owners have chosen to disperse their breeding and just run a trading operation.

KEY LEARNS

The experience of this pestivirus outbreak investigation has left the following conclusions:

- Pestivirus is a significant disease with major financial, production and welfare consequences
- Pestivirus should be managed through biosecurity, use of the Cattle Health Declaration to assess disease risk in purchased stock and an effective vaccination program
- If simultaneously running a breeding and trading operation within an individual property/enterprise the risk of pestivirus incursion and infection is high. Take steps to manage the disease through vaccination of breeding animals and isolating breeding animals from traded stock at periods of high risk.

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