

## CLOSTRIDIUM PERFRINGENS – THE HIDDEN KILLER

*Clostridium perfringens* are normal gut inhabiting bacteria of cattle – even in newborn calves. Their ability to produce deadly toxins has significant implications on the health of young calves (0-15 days old).

*Cl. perfringens* Types B and C are the major clostridia causing neonatal calf health issues<sup>1</sup>. From the first day of life they produce deadly beta toxins which cause haemorrhagic enteritis in newborn calves (see table). Typically, affected calves will start with a yellow scour that becomes browner due to blood. Sometimes strips of mucosa (gut lining) may be seen and calves become weak and anaemic very quickly, with death common.

### IS *CL. PERFRINGENS* COMMONLY FOUND IN SCOURING CALVES IN AUSTRALIA?

A recent survey<sup>2</sup> tested over 146 calves from various properties highlighted the prevalence of *Cl. perfringens* and epsilon toxin using the **RAINBOW 6** – calf scours test kit.

The calf scours test kit detects elevated levels of *Cl. perfringens* above normal gut levels. Nearly a third of all scouring calves had elevated clostridia levels, suggesting that in sick calves an over abundance of the bacteria often occurs. In the survey, 4% of calves were also expressing deadly epsilon toxin.<sup>5</sup>

	No. positive samples (by pathogen)	% of positive samples (146 tests)
Cryptosporidium	71	49%
Rotavirus	62	42%
<i>E.coli</i>	8	5%
Coronavirus	5	3%
<b><i>Cl. perfringens</i></b>	<b>47</b>	<b>32%</b>

**ROTAVEC CORONA** offers cross-coverage against toxins produced by *Cl. perfringens* Types B, C and D; minimising the potential for toxin related deaths in young calves.<sup>6</sup>

<i>Cl. perfringens</i> Type	Major toxin produced that affect calves		
	Alpha	Beta	Epsilon
B	✓	✓	✓
C	✓	✓	✗
D	✓	✗	✓

### WHY USE VACCINES THAT HELP DEFEND AGAINST *CL. PERFRINGENS* TYPES?

*Cl. perfringens* should be considered as a potential cause of death in any calves that die unexpectedly as calves affected by *Cl. perfringens* toxins usually die rapidly before scouring<sup>3</sup>.

Dairy and beef producers can take preventative vaccination measures against *Cl. perfringens* Type C (a cause of neonatal death) with **Coopers ROTAVEC CORONA** – the broadest calf scours vaccine available<sup>4</sup>.

#### CLOSTRIDIAL PERFRINGENS TOXINS IN SCOURING CALVES

- Commonly found in very young calves
- Kills quickly, often before symptoms appear
- Limit disease potential using pre-calving vaccination containing Type C antigens



COOPERS<sup>®</sup> BOVILIS<sup>®</sup>  
**ROTAVEC CORONA**

## DON'T RISK DEADLY TYPE C – *CL. PERFRINGENS* IN NEWBORN CALVES

### ASK FOR ROTAVEC CORONA

1. A practical guide to diagnosis, Bovine neonatal diarrhoea. MSD 2012.

2. Coopers National Calf Scours Survey. MSD Data on file.

3. PROCEEDINGS OF THE COMBINED ACV/ASV ANNUAL CONFERENCE – HOBART, 2015

4. Broadest spectrum refers to total number of antigen types in Rotavec Corona.

5. Note the test only detects less common Epsilon toxin of *Cl. perfringens* Types B & D. Type D is the cause of pulpy kidney which is not seen in neonates. Coopers are developing a test process for beta toxin common to Types C & B.

6. Uzal FA, Diagnosis of *Clostridium perfringens* intestinal infections in sheep and goats. Anaerobe. 2003.

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