Credence poultry trial 2017 New Zealand

Objective: to assess the threat of campylobacter infection via drinking or wash down water.

Protocol: Free range broiler (indoor/outdoor) unit in South Auckland. Modern facility with biosecurity on site. A total of 36,200 birds on each shed. Comparing current chlorine dioxide (0.35 ppm) drinking water treatment (positive control) with Credence (0.3 ppm). Farm characterised as 'average/good' in terms of management.

Water quality limits for poultry (Muirhead, 1995)

Parameter	Average	Maximum
Total bacteria	0	100
Coliforms	0	50
pH	6.8-7.5	6-8

Results from faecal samples and water for campylobacter presence

Parameter	Chlorine dioxide shed 1	Credence shed 2
Water pH	8.4	7.8
Incoming water pre-treatment TVC	11	245
Incoming water total coliforms	2	<1

Age of birds Chlorine dioxide (days)	Age birds Credence (days)	Sample type	Chlorine dioxide	Credence
4	1	Faecal	Not detected	Not detected
9	6	Faecal	Not detected	Not detected
18	15	Faecal	Not detected	Not detected
		Nipple drinkers	Not detected	Not detected
First thinning	First thinning	Faecal	Present	Present

Key findings

- There was 22% lower mortality at 7 d and 14% lower mortality at slaughter for birds receiving water treated with Credence compared to chlorine dioxide flock.
- Variable total viable counts in supply water before treatment) on farm, the shed with Credence being higher than shed with chlorine dioxide, yet faecal coliforms <1 for Credence relative to chlorine dioxide at log 2.
- pH was maintained at correct levels for poultry with Credence (7.8) compared to chlorine dioxide (8.4) which, relative to poultry standards (max 8), increased water pH above the maximum recommended levels.
- Campylobacter found in both sheds in droppings in shed during thinning of the flock by outside personnel at around 30 days of age, hence biosecurity for visiting staff needs to be urgently addressed. Credence can be used in increasing concentrations for disinfection of staff, vehicles and equipment.

P O Box 119, Feilding 4740, New Zealand
Phone: 06 3289026 Cell: 021 743374
Email Lucy: lucy@animalnutrition.co.nz
Web:wwwanimalnutrition.co.nz