Phil Pond, J Food Process Technol 2015, 6:9
http://dx.doi.org/10.4172/2157-7110.S1.026

OMICS International
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International Conference on

Food Safety and Regulatory Measures

August 17-19, 2015 Birmingham, UK

Birds, bacteria and baselines: Managing *Campylobacter* through-chain to improve public health outcomes

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Hypothesis: Although it is generally accepted that there is a high level of consumer awareness regarding the need to thoroughly cook chicken prior to consumption, following a significant spike in the number of reported campylobacteriosis cases in North Queensland in 2011 a hypothesis was proposed that the rise in cases was emanating from the ineffective management of control barriers in place in poultry meat processing facilities.

Data Collection & Analysis: Safe Food Production Queensland (SFPQ) initially developed a poultry meat supply chain map which resulted in the identification of one processor as the potential contributor to the rise in campylobacteriosis cases. As a component of this evaluation, SFPQ committed to undertake a systematic scientific and technical assessment of the chicken meat industry production and processing chain. At this stage, the hypothesis were refined –to propose that intensive and active monitoring of critical processes at four separate verification points would provide an effectual series of "barriers" able to verify control measures taken through the chain, as opposed to relying upon periodic monitoring, process mechanization and endpoint assessment as was previously the case. When this was applied at the processing facility levels of *Campylobacter* and *Salmonella* on final product which were sampled over a period of time were found to have significantly reduced. Following this work SFPQ formed a working-group partnership with accredited poultry meat processors to regularly consult on baseline development, report on assessment results and agree on on-going industry targets and protocols for the assessment of compliance into the future. To examine the effectiveness of the developed baseline, a study was conducted in all large- and medium-scale poultry processing facilities in the state of Queensland, representing more than 95% of chicken meat produced in the state. Samples were collected on two occasions from four specific points along the processing chain, reflecting the identified critical monitoring and control points to assess process control measures over time during the implementation period.

Conclusion: After the first sampling period was completed and the results of this testing along with the implementation of the baseline was undertaken by processors, substantial improvements in the mean reduction of *Campylobacter* were observed. As a result, despite the industry target for *Campylobacter* on final product carcases being exceeded, public health data indicated a significant reduction in the number of campylobacteriosis notifications received. SFPQ analysis and work with the poultry industry has since been expanded to include all thirteen poultry processors. An independent economic analysis of the new methodology was finalized in 2014 by Synergies Economic Consulting. The report models the costs and benefits of the implementation of the methodology over a ten year period – from 2012 to 2021. The model estimates that the benefits ofthe reduction in cases of *Campylobacter* will provide a present value benefit of $70.7 million. When costs are factored into the modeling the net benefit to the community is expected

Biography

Phil Pond has a Bachelor of Economics (Major in Law) from the University of Queensland, together with qualifications in Quality Assurance and auditing. He started his working life in the Department of Primary Industries and Fisheries in Queensland. Responsibilities within the Department included fisheries management and the Fishing Industry Appeals Tribunal. Since joining Safe Food Production Queensland in 2001 he has been General Manager of the Compliance, Strategy and Response area with responsibility for legal matters/legislation, finance, funding arrangements and operational matters and is currently overseeing key operational projects in compliance. He is a member of the Executive Management Group and is Safe Food's representative on a number of national committees and working groups in relation to food safety. He has also been seconded to Food Standards Australia New Zealand to assist with food legislative training in Vietnam and China and has also delivered a paper in Dublin on food safety matters.

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