



Biggs Food Consultancy Ltd.

Submission to FSANZ on Application A1215 - Cetylpyridinium chloride (CPC) as a processing aid

13 April 2022

Thank you for the opportunity to submit on this application

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Background

I am a Food Technologist with long experience in the poultry industry in New Zealand. I was a senior Technical Manager for Tegel Foods Ltd for 19 years and since retirement 5 years ago I have worked as a consultant, mostly in poultry in a range of countries – Australia, PNG, Russia, Cambodia and New Zealand. I have been heavily involved with Salmonella and Campylobacter control on farms, in feedmills and processing plants.

Submission:

I support the opportunity for the industry to use CPC for the following reasons

1. It is another potential tool for the industry to use, it is the chloride salt of a Quaternary Ammonium compound, a useful addition to the processing aids available. It is not regarded as a chlorine compound and thus, if chlorine becomes unacceptable, gives an alternative if companies have an issue with Peroxyacetic acid.
2. For small companies it is much simpler to use – there is no mixing of ingredients, no pH correction, just a straight dilution of a single product.
3. It has less Health and safety issues than the most commonly used processing aids in the processing plants – peroxyacetic acid or acidified sodium chlorite.
4. It lends itself to “local” applications in departments of a processing plant.
5. The papers presented by the Safe Food Corporation show that it has some efficacy, though the two recent papers outlined below have differing views.

[REDACTED]

Biggs Food Consultancy Ltd.

Effectiveness of Several Antimicrobials and the Effect of Contact Time in Reducing Salmonella and Campylobacter on Poultry Drumsticks

Lei Zhang,* Amit Morey,† Sacit F. Bilgili,† Shelly R. McKee,‡ and Laura J. Garner†,1

SUMMARY The objective of the current research was to determine the optimal contact time for 6 antimicrobial treatments, including water, 0.003% chlorine, 0.07% peracetic acid (PAA), 0.1% PAA, 0.35% cetylpyridinium chloride (CPC), and 0.6% CPC. Drumsticks (n = 192) were inoculated with Salmonella Typhimurium and Campylobacter jejuni, and allowing some bacterial attachment time, drumsticks were treated with the 6 antimicrobials mentioned above for 10, 20, and 30 s contact time.

The recoveries of Salmonella Typhimurium and Campylobacter jejuni were determined after plating. The results of this study indicated the antimicrobial effect on reducing Salmonella and Campylobacter on poultry parts, and the impact of contact time on the efficacy. This could be a guide for industrial application of which antimicrobial to use and how to control the contact time.

2019 J. Appl. Poult. Res. 28:1143–1149

<http://dx.doi.org/10.3382/japr/pfz080>

CONCLUSIONS AND APPLICATIONS

1. This study indicated that CPC was the most effective antimicrobial against Salmonella and Campylobacter. However, CPC can have higher costs associated with start-up and use because regulations require recapturing before disposal. Additionally, higher concentrations were more effective in reducing Salmonella but not Campylobacter.
2. PAA was also an effective antimicrobial tested in this study, and the concentration of PAA had no impact on its efficacy.
3. Each company would need to determine the cost-benefit associated with the selection of each antimicrobial for a particular process.



Biggs Food Consultancy Ltd.

Application of Peroxyacetic Acid for Decontamination of Raw Poultry Products and Comparison to Other Commonly Used Chemical Antimicrobial Interventions: A Review

CARMEN CANO,¹ YULIE MENESES,^{1,2} AND BYRON D. CHAVES

Journal of Food Protection, Vol. 84, No. 10, 2021

Twenty-six articles were found that compared PAA with over 20 different antimicrobials, applied as spray or immersion treatments for different exposure times and at different concentrations. The most common comparisons were to chlorine compounds (17 articles), to lactic acid compounds (five articles), and to cetylpyridinium chloride (six articles). Studies measured effectiveness by reductions in native flora or inoculated bacteria, usually *Salmonella* or *Campylobacter*. PAA was found to be more effective than chlorine under most conditions studied. Effectiveness of PAA was higher than or comparable to that of lactic acid compounds and cetylpyridinium chloride depending on product and treatment condition

Although the papers may appear to be contradictory they both indicate that CPC would be an effective processing aid for the control of the common poultry related zoonoses.

Once again, thank you for the opportunity to make a submission on the application to use CPC as a processing aid for raw poultry carcasses and skin-on, bone-in pieces.

