The evaluation of electrolyzed water on disinfection of fertile eggs in hatchery

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Received: 09.11.2016 Accepted: 22.04.2017

Abstract

For evaluating the electrolyzed water (EW) in disinfection of fertile egg in hatchery, 120 fertile eggs were prepared. The eggs after challenge with standard strain of *Escherichia coli* (*E. coli*) were divided into 5 groups. Group 1, 2 and 3 were disinfected with acidic, basic and neutral EW, respectively. The eggs in group 4 were disinfected with formaldehyde gas, conventionally. The eggs in group 5 as control group were sprayed with sterile water. From each group, 6 eggs after challenge and disinfection were utilized for counting of *E. coli*. All eggs in hatchery were incubated and after 21 days, the hatchability and chick weight were determined. Unhatched embryos for determination of *E. coli* contamination were cultured. Results showed, disinfection of fertile eggs with acidic EW have same result as formaldehyde gas, while basic and neutral EW in comparing with control could decrease microbial load on fertile eggs. In overall, acidic EW could be used in disinfection of fertile eggs in hatchery.

Key Words: *Escherichia coli*, Electrolized Water, Fertile egg, Hatchery

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