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TITLE

IN-USE STABILITY OF COLIPROTEC F4/F18, A LIVE E. COLI VACCINE FOR ORAL SUSPENSION, IN WATER ACIDIFIER AT DIFFERENT PH VALUES

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CONTENT

Background and Objectives Organic and inorganic acids are used to lower the pH of drinking water to increase the digestive enzymes activity, regulate the gut microbiota and reduce water contaminants. These products can interfere with the efficacy of oral live E. coli vaccines administered in drinking water. This study evaluated the in-use stability of an oral live E. coli vaccine when diluted with water adjusted at different pH using an acidifier. **Material and Methods** The in-use stability of an oral live E. coli vaccine that protects pigs against PWD caused by F4-enterotoxigenic E. coli (F4-EPEC) and/or F18-EPEC (Coliprotec F4/F18, Prevtex Microbia) was investigated at different pH using an acidifier made with phosphoric (main ingredient), citric, lactic and malic acids (JEFACID, JEFO Nutrition). The vaccine was reconstituted as per leaflet instructions with 10 ml of water (pH 8) and then diluted at 1 dose per 170 ml (drinking water administration) with water (pH 8) or with water adjusted to pH 6, 5, 4 and 3 using the acidifier. Viability of both vaccine strains (F4 and F18) was determined after 0 and 4 hours at 25 °C using viable plate counts. **Results** No impact on the viability of both vaccine strains was observed after 4 hours when the vaccine was diluted in water (pH 8) or when the pH was lowered to pH 6 and 5. However, at lower pH, the viability of both vaccine strains was affected, with a reduction of 19% at pH 4 and about 50% (59% for F4, 45% for F18) at pH 3. **Conclusion:** The oral live E. coli vaccine prepared for drinking water administration is stable for 4 hours at 25 °C at water pH between 5 and 8, but not at pH 4 and below. It is recommended to check the pH of water before vaccination.