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TITLE

IN-USE STABILITY OF COLIPROTEC F4/F18, A LIVE E. COLI VACCINE FOR ORAL SUSPENSION, WHEN USED WITH A DEXTROSE/ELECTROLYTE SOLUTION.

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CONTENT

AuthorsLouise Bélanger, Danielle Tremblay and Éric NadeauPrevtec Microbia Inc, 3395 Casavant blvd. West, Saint-Hyacinthe, Québec, Canada.Background and Objectives Oral live E. coli vaccines against PWD can be administered to pigs from 18 days of age. These vaccines are made up into suspension with water to be orally administered and should be consumed within 4 hours. Administration of the vaccine with bowls is often preferred to the drench application of suckling piglets to reduce manual labor and animal stress. Dextrose/electrolyte solutions are often used to facilitate water intake by suckling piglets. This study evaluated the in-use stability of an oral live E. coli vaccine when diluted with a dextrose/electrolyte solution, with or without a water stabilizer. Material & MethodsThe viability of an oral live vaccine comprising two E. coli strains (Coliprotec F4/F18, Prevtec Microbia) was investigated when prepared with a dextrose/electrolyte solution made with dextrose, sodium chloride, betaine, monopotassium phosphate and a premix including sodium acetate and proprionate (Résorb2, Provimi). The vaccine was reconstituted with 10 ml water (pH 7.7) and then diluted at 1 dose per 83 ml with a 4% v/v dextrose/electrolyte solution (pH 4.6) or a solution of 4% dextrose/electrolyte and 0.5 g/L of a water stabilizer (Aviblue, Elanco) (pH 5). A dilution of the vaccine in water was also analyzed as a control. Viability of vaccine strains (F4 and F18) were determined after 0 and 4 hours at 25 °C using viable plate counts. ResultsNo impact on the viability of both vaccine strains was observed after 4 hours when the vaccine was diluted in water and in the dextrose/electrolyte solution, with or without the water stabilizer. Discussion & ConclusionThe oral live E. coli vaccine prepared for bowl administration to suckling piglets is stable for 4 hours at 25 °C when prepared with a dextrose/electrolyte solution to facilitate the vaccine intake. The addition of a water stabilizer to the dextrose/electrolyte solution did not affect the in-use stability of the vaccine.