Vaccination of Young Dairy Calves against *Mannheimia haemolytica* and *Pasteurella multocida*: Field Trial

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Introduction

Enzootic calf pneumonia is responsible for significant economic losses in the dairy industry because of its high morbidity and mortality. An effective vaccine could help reduce these losses. The purpose of our study was to evaluate the efficacy of a commercial *Mannheimia haemolytica - Pasteurella multocida* vaccine in young dairy calves.

Materials and Methods

Holstein calves (n=358) aged from 14 to 20 days from eight different herds were randomly assigned to a control or a vaccinated group. The vaccine used was Once PMH™ (Bayer), a modified-live *Mannheimia haemolytica - Pasteurella multocida* vaccine. The vaccine was administered on Days 0 and 28 of the trial. Calf weight was measured monthly. Farmers were asked to record any treatment given to the calves, and the reason for treatment. Blood was collected from all calves on Days 0 and 28 of the study. Antibody titers to *M. haemolytica* were determined by direct bacterial agglutination.

Results and Conclusions

Average daily gain was not significantly different between vaccinated and control calves. The vaccinated calves had almost a sixfold increase in titers, whereas the control calves had a 3.6-fold increase in titers ($p<0.0001$). There was no significant difference between vaccinated and control calves for any of the treatment outcomes (number and duration of treatment, age at first and last treatment). These results show that Once PMH™, given twice at a two-week interval to young dairy calves, is effective in raising titers against *M. haemolytica,* but these antibodies do not seem to be protective against pneumonia.

Evaluation of ECF™ (Early Conception Factor) Dip Stick Test for Cattle

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Introduction

The ECF assay is a lateral-flow assay intended to identify non-pregnant cows shortly after insemination or breeding. It can be run on serum or fresh-milk samples collected 48 hours to 15 days after the cow is bred. The test uses monoclonal-polyclonal antibody dipstick methodology. The objective of this study was to evaluate the efficacy and user friendliness of the ECF test.

Materials and Methods

ECF Dip Stick Tests were obtained from Concepto Diagnostics, Knoxville, Tennessee, and evaluated in 200 cows at three locations in the United States. Duplicate milk and blood samples were obtained from each cow seven to 14 days after insemination. Tests were read visually and also with the aid of a dissecting microscope. The milk and serum samples were frozen and sent to Concepto Diagnostics for comparative analysis.