

## ABSTRACT

### IMMUNOGENICITY OF INACTIVE WHOLE CELL *Aeromonas salmonicida* VACCINE COMBINATION WITH VITAMIN C IN COMMON CARP (*Cyprinus carpio*)

By

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The addition of vitamin C in the vaccine is known to increase the immunogenicity and efficacy of the vaccine. The aim of this study was to increase the immunogenicity of an inactivated *whole cell A. salmonicida* vaccine with the addition of vitamin C in common carp (*Cyprinus carpio*). *A. salmonicida* was inactivated with formalin 1.5% (v / v). First vaccination was administered with injected intraperitoneally ( $10^7$  cells / fish) to common carps (size  $\pm$  30gr). Second vaccination (Booster) was administered 7 days after the first vaccination with the same dose and method. *Bleeding* were performed before vaccination, 7 days after the 1<sup>st</sup> vaccines, and 7 days after the 2<sup>nd</sup> vaccines. Blood analysis including titre antibody, hematocrit values, and total leukocytes were observed in every blood sampling. The results showed that the addition 1000mg of vitamin C in vaccine provided the highest titre antibody, hematocrit value, and total leukocyte to other treatments (  $2^8$  (64), 28%, 88,000 cells/mm<sup>3</sup>), respectively at the last observation (7 days after 2<sup>nd</sup> vaccines). Water quality including DO, pH, and temperature, during research were measured within tolerable limits of common carp growth.

Key word: Inactive vaccine, vitamin C, *Aeromonas salmonicida*, common carp. immunogenicity