CHAPTER I

INTRODUCTION

Duck plague or Duck virus enteritis is an acute contagious disease affecting Anseriformes (ducks, geese and swans) caused by the duck plague herpes virus (1,2,3). The virus, which has only one serotype, is transmitted when susceptible birds come into contact with infected birds and by both direct and indirect exposure to contaminated materials and equipment. Birds of all ages are susceptible (4).

Effective immunizing agents are in demand in many parts of the world for the prevention of duck plague. An acute attack of this disease can result in quick death for the individual bird and lead to the rapid spread of the disease throughout the whole flock rendering antimicrobial therapy ineffective. The only way to control this disease is by efficient vaccination.

At present, the vaccine used for the prevention of duck plague in Thailand is live, attenuated, chicken-embryo-adapted vaccine prepared by the Department of Livestock Development. According to their recommendations, at least 3 injections of this vaccine must be administered to ducklings of up to 6 months of age; the bird must then be revaccinated every 6 months. In previous studies, many researchers found that chemically inactivated duck plague vaccine can also afford protection (5,6,7). Also, the presence of adjuvant seems to enhance the protective properties of

the vaccine (5). Thus this study, consisting of a comparison between these two kinds of vaccine in terms of the protective immunity and antibody titer should prove both interesting and useful. The results will contribute to the development, sometime in the future, of an efficient duck plague vaccine.

Research aims

1. To study the level of protection and the neutralizing antibody in ducks vaccinated with attenuated and inactivated vaccine (with and without adjuvant).
2. To explore the relationship between the neutralizing antibody and protective immunity.
3. To examine the antibody titer by using the indirect hemagglutination test.

Research advantages

1. To establish whether or not inactivated duck plague vaccine (both with and without adjuvant) is a beneficial as a valuable vaccine so we can find the ways to improve the efficacy of the vaccine.
2. To know the correlation between the neutralizing antibody and protective immunity.
3. To determine whether the indirect hemagglutination test can be used to evaluate the antibody levels or not since the neutralization test is more complicated and requires a lot of equipment as well as a great deal of reagent and time.