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# Investigation of Avian Mycoplasma Infection in Vietnam by Molecular Tools

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**Abstract**

Poultry production plays an importance role in Vietnamese animal production. The main system for raising poultry in Vietnam is mainly based on low-input low-output system in small household. Such systems are currently bringing a certainly economic importance in poultry production but they are characterized by high incidence of disease. The Chronic Respiratory Disease and synovitis are caused by *Mycoplasma gallisepticum* (MG) and *Mycoplasma synoviae* (MS) in chicken and turkey are the diseases that causes a tremendous economic loss in Vietnam. The control of these diseases depend largely on early detection and eradication. Recently, a number of molecular diagnostic methods were developed in our institute in order to increase the sensitivity of mycoplasma detection. A nested PCR for the detection of MG, the main pathogen, was set up. The test reaches the limit of less than 5 CFUs/reaction, a multiplex PCR protocol and a PCR-RFLP procedure were set up for avian mycoplasma detection and strain differentiate with high sensitivity and accuracy. Our results shown that there are clear difference of MG infection between two seasons of study (90 % in spring and 20 % in autumn). There is a significant difference between two systems of poultry production in spring, the large scale (75 %) and extensive production (87 %). Interestingly, all of the pathogen avian mycoplasmas were found in Vietnam. The method enable us to detect the bacteria not only in swab sample but also allow us examine in other type of specimen such as yolk, embryo, water, litter.

**Keywords:** Avian mycoplasma infection, detection tools, PCR sensitivity

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