

### **Infrastructure, management, and production performances of broiler farms in Cipunagara Subdistrict, Subang District, West Java**

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#### **Background**

Poultry meat is an important source of high quality proteins, minerals and vitamins for the human diet. Although specially developed breeds of meat chickens (broilers) are available which have the ability for rapid growth and high feed conversion efficiency, the optimum production of broiler poultry is highly dependent on proper husbandry and health management systems on the farm. Good farm management practices will reduce the risk of disease and consequently reduce operational budgets. Relatively little is known in the public domain about the nature of broiler farming in Indonesia. This study was part of a larger multi-intervention pilot project carried out by the Agricultural University of Bogor, the District Livestock Services of Subang and the Indonesian-Dutch Partnership on HPAI control and had as objective to collect information on the infrastructure, management, and production performances of broiler farms in Cipunagara Subdistrict, Subang District, West Java Province.

#### **Materials and methods**

A cross-sectional survey was conducted in the period of January 18<sup>th</sup> – 24<sup>th</sup>, 2010. The target population was all broiler farms in Cipunagara Subdistrict. At the time of the survey, 25 broiler farms were in operation in the study area and they all agreed to participate in the study. Information on farm infrastructure, farm management, and productivity was collected through a questionnaire. The questionnaire was developed by modification of an existing questionnaire designed by the Australian Centre for International Agricultural Research (ACIAR) and was piloted on broiler farms in Bogor District. Based on the results of the pilot, minor modifications were made. Information about management and productivity was obtained by collecting data from the three production cycles prior to the time of the survey. The questionnaire used open-ended questions, close-ended questions, and fill-in tables. Questionnaires were administered by enumerators through face-to-face interviews of farm owners, farm managers or farm workers. Where possible, enumerators would validate respondents' answers by observation on the farm.

Data from the questionnaires were entered into a Microsoft Excel spreadsheet and transferred to a SPSS 13.0 data base. Data were analyzed descriptively using SPSS 13.0.

#### **Results and discussion**

There were two types of poultry farms in Cipunagara, namely independent poultry farms (n=18; 72%) and poultry farms under contract with companies (n=7; 28%). Poultry farms under contract obtained their poultry health services from their company partners. Fifty-

six percent of independent farms (n=10) received health services from poultry shops, while the rest of the independent farms obtained health services from Subang livestock services (n=4; 22%), from a private veterinarian (n=1; 6%), or from other sources (n=3; 17%).

The mean total capacity of the farms was 2728 broilers per farm. They had a mean land area of 977 m<sup>2</sup> which contained most frequently only one shed (n=19; 76%), although five farms (20%) had two sheds and one farm (4%) had 3 sheds. Therefore, the total number of sheds in this survey was 32. All sheds had a half open construction and 81% of them (n=26) had one level whereas 19% of the sheds (n=6) had 2 levels. There were some sheds (n=11; 34 %) which used the ground floor of the shed as a level; thus all other sheds were raised off the ground. The mean size of the sheds was 172 m<sup>2</sup> and the mean number of birds that was put in these sheds was 2250 birds (range 200-15000 birds).

The majority of the sheds had bamboo floors (n= 30; 94%) and bamboo walls (n=31; 97%). The roofs were primarily made with roof tiles (n=29; 91%).

In the questionnaire, farmers were asked to provide information on the three production cycles which occurred just prior to the survey. This resulted in 66 production cycles for which full information was available. The mean number of day-old chicks (DOCs) that were started by the broiler farmers in these 66 production cycles was 2565 birds. All contract farms (17 production cycles) received their DOCs from the contract company (n=17; 26%). On the other hand, independent farms (49 production cycles) got DOCs from various sources, including the poultry shop (n=36; 55%), direct from the breeder (n=12; 18%) or from a neighbor friend (n=1; 1%). In more than half of the production cycles (n=43; 65%) an all in all out management system was used. The mean of the empty period was 12 days. Production periods were relatively short (28 days) and the mean body weight when harvested was 1253 gram with a mean feed conversion ratio (FCR) of 1.51. These FCR figures are considered to be normal for Indonesian conditions (Fadilah *et al* 2007). The mean culled rate was 1.34 % and the mean mortality rate was 5.47%.

All of the 66 production cycles were vaccinated against Newcastle Disease (ND) whereas vaccination against Infectious Bursal Disease (IBD) was conducted in 54 production cycle (82%). In contrast, in only 20 production cycles (30%) did farmers vaccinate against Highly Pathogenic Avian Influenza (HPAI). Farmers stated that in 50 production cycles (76%) their bird became sick but in only 13 cycles (26%) a diagnosis was made as to the cause of the illness. Diagnoses were made by the contract company (n=3; 23%), by the local livestock services (n=3; 23%), by a poultry shop (n=3; 23%) or by the farmer himself (n=4; 31%). Diagnoses which were made included IBD (n=5; 36 %), colibacillosis (n=6; 43 %) and Chronic Respiratory Disease (CRD) (n=3; 21%).

## **Conclusion**

Information collected by our survey shows that broiler farms in Cipunagara subdistrict are generally small independent farms. Birds are raised in short periods and go to slaughter at relatively low weights. Although the occurrence of disease appears to be high, relatively few cases are diagnosed. Despite of these disease burdens with resulting high mortality rates, FCR figures are considered acceptable by industry standards. There exists a need for further studies to more accurately describe and quantify disease occurrence on broiler farms in Subang and to investigate associations with biosecurity and other farm management practices.

## **References**

Fadilah R, Agustin P, Sjamsirul A, dan Eko P. 2007. Sukses Beternak Ayam Broiler. PT. Agromedia Pustaka. Jakarta.