Research and Development of Feed Rations for Black Bone Chicken as well as Chicken Production and Fattening System for Highland Area

There are 3 experiments (Exp.) in this study. Exp. 1 The study aimed to find out the optimum dietary protein (CP) and metabolizable energy (ME) levels for Royal project black bone chicken (BBC) during growing period (1-13 weeks of age). A total of 360 heads of 1-day old mixed sex chicken were randomly divided into 4 groups of 3 replicates each (30 birds/rep.) according to a 2 x 2 Factorial arrangements in CRD. Two CP levels, i.e. 21, 19, 17% were compared with 19; 17, 15% during 1-5, 6-10 and 11-13 weeks of bird age, while 2 ME levels (3.2 vs. 2.9 kcal ME/g) were used throughout the whole experiment. The result showed no significant interaction ($P>0.05$) between CP and ME levels. When each factor was taken into consideration, the result showed that chicken fed high protein diet had significant better performances i.e. higher body weight gain and total feed intake than the low protein diet ($P<0.05$; 1.06 vs. 0.95 kg and 2.74 vs. 2.51 kg, respectively) even though FCR (2.58 vs. 2.64) and ADG (12 vs. 11 g) was not significant different. The results of ME level showed that the chickens fed low ME level (2.9 kcal/g) consumed significantly more feed (2.86 vs. 2.38 kg) thus led to higher FCR (2.75 vs. 2.47) while body weight gain and ADG as well as mortality and culling rate were not significant different between groups. When each treatment was taken into consideration, it can be concluded that the optimum diet for Royal project BBC during 1-5 weeks of birds age should contain 21% CP, 2.9 kcal ME/g, while during 6-10 weeks of age should be 19% CP, 2.9 kcal ME/g and the age of 11-13 weeks should be 17% CP, 3.2 kcal ME/g.

Exp. 2 aimed to study the potential of highland farmers on raising BBC according to the guideline of GAPs: highland BBC. Three areas of different elevation were selected, i.e. 700, 700-1,000 and over 1,000 m above sea level. The names of the center in such areas are Sa Ngo Royal Project Development Center, Nong Keaw Royal Project Development Center, and Wat Chan Royal Project Development Center, respectively. A total of 6 farmers, i.e. 2 from each area were selected. The result of this study is in compiling process.

Exp. 3, economic return and the satisfaction of raising BCC were evaluated by interviewing 16 highland farmers for their satisfaction on breed characteristic, performance of the selected and continuously improved BCC variety, chick price, marketing price and economic return of raising. The result revealed that the average satisfaction of all aspects was at high level, while the satisfaction on officer advice was the highest. The satisfaction on

number of chicks being provided in each lot and the price of chicken diet as well as the breed-true to type characteristic of the chicks were at medium level. However the economic return and others were at high level.

Keyword: Black Bone Chicken, Royal Project Foundation, Protein, Metabolizable energy, Appropriate ration, Highland, Good animal production system: Highland farm (GAPs : Black bone chicken on highland), Satisfaction