

BREEDING OF BROILER STRAN COBB AND BIOSAFETY: EXAMPLE OF SAHUYE FARM (CÔTE D'IVOIRE)

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ABSTRACT

The study carried out in a barn located in tropical areas highlighted all poultry techniques used and the production parameters for the implementation of the chicks until the end of the band. The basic rules of starting and finishing have been met but despite this, the chickens have caught coccidiosis is a dangerous disease. They were immediately treated and preventive security measures have been taken to prevent the disease from spreading. A protocol for medical and health prophylaxis was applied rigorously to protect all livestock against any diseases. In addition, various calculations relating to the zoo technical parameters were made and compared with the results "Cobb". These include calculations of average weight, consumption rates and average weekly earnings.

Keywords: Biosafety, "Cobb chicks", average weight, safety index, average weekly gain.

Introduction

Biosecurity refers all security measures to protect the health of living things in their environment. These include human health, animal and plant. Animal Biosecurity focuses on the health of livestock. This involves all the factors and parameters that contribute to the production there of. In poultry, biosecurity is to implement hygiene in all its forms, that is to say, placing sanitary barriers in the geographical area where the animals (Cardinale and Drouin, 1999) live. For three decades, the poultry sector is the most developed at the national level with implantation of poultry farms more or less modern throughout the Ivorian territory. In 2005, poultry production was 22, 52 million head in 2007 and it reached 33 million head. An increase of 10, 48 million head. And the consumption of chicken meat in the household has become every year a habit for poor families.

According to a study by the Institute of Poultry Production (IPRAVI) in 2007, the national annual consumption of poultry is estimated at 35 million head. Demand is greater than the offer indicated above. This means that all households do not regularly consume chicken. We must therefore consider increase production because it is the only sector that can produce a large amount of animal protein at the beginning of the century (Koné and Danho, 2008). Despite the increase in production, issues related to health and animal welfare are recurrent in some poultry farms. This has a negative effect on production in these farms. The number of heads produced is significantly reduced. In fact it should not have major problems concerning the welfare of chickens because the space allocated to each animal is respected (Picard et al. 1994). This work aims to tropics to better understand the technical operation and identify the root causes preventing the increase in production should be parallel to the application so that it has a perfectly competitive market poultry. This research will be focused specifically on the study of different production parameters, and to a large extent, they will understand the contribution of biosecurity in a poultry farm. For this we follow and participate in the daily work of the technician who does the chicken start to finish a bunch of chicks. It is therefore a study technical and social.

I. Equipment

1-1 Technical and biological materials

A naturally ventilated with an area of 400 m² (Fig. 1) was built to shelter 3000 "chicks Cobb strain" (fig. 2). Space for dorm these animals was covered with sawdust carpentry. A fence placed on a wall of 30 cm was sealed four pairs opposite sides of the building. And a dark plastic sheet was placed against the wire mesh to the external surface. It served as protection against the rain and strong winds. The "chicks Cobb strain" are from France. This strain is controlled by the French company livestock production (SPAF). Chicks are received at the Cobb representative in Côte d'Ivoire. It is he who is then responsible for redistribution farms which place the order. A rearing technique of watering device comprising first and second age, feeders start and finish, radiant gas to heat the chicken, thermometers for regular intake temperatures and a tank with a capacity of 1000 liters was introduced to raise chickens. It was installed about 20 m from the barn to facilitate water supply automatic waters.

In Figure 1 a crawl space of two weeks was observed after the passage of a band. Then another device was set up to automatically receive another band. Receptive is almost empty. Being in a non-supplied with running water zone, the owner of the farm uses pumps to draw water from a well-established for this purpose. The chicken is fed through pipes connecting the troughs and a tap on the tank (Fig. 3).

Apart from these elements that are used daily, it was used equipment to occasional use. It is a nebulizer for mass vaccination of chickens (Fig. 4).

1.1. 2. Medical and health equipment

There are various pharmaceutical products on the market but every breeder chooses a range of products following the advice of your veterinarian. Pharmaceuticals used almost the same purpose. Some are vitamins that have main role is to strengthen the body of birds, other antibiotics are molecules kill bacteria or prevent their growth simply. All these products have been used in breeding including known to all breeders such as H120 conventional vaccines against infectious bronchitis, HB1 against Newcastle disease, the Cevac gumbol L against Gumboro and the Lasota and Gumboro vac rappelling, and so on. In addition, a range of disinfection has been selected among others to ensure the health protocol. These include the bleach, the cresyl of Virunet and so one. The medical and health protocol was written by a veterinarian and given the technician who ran the farm work.

II. Methods

2-1 Technical research and care

We chose the technique of observation and active participation in different breeding work since the start to finish. We enrolled in applied research. We also opted for sometimes active and sometimes passive observations. A fact sheet has been provided to note the daily observations relevant to the study. This protocol was predetermined before the start of breeding. Before receiving chicks, a device was developed following the rules and traditional practices. This is the installation of the brooding including all livestock equipment drinkers, feeders, heaters gauze, thermometers, and so on. Although we are in a tropical area, the barn was briefly heated for three days to have a room temperature. The site is not electrified; a generator was used as an energy source.

2-1-1 - The medical prophylaxis

It consisted in the establishment of a medical and health protocol. With for medical coverage, the chicks were vaccinated against bronchitis and New Castle by spraying on the third day after their arrival. On the eighth day, a mass vaccination was made against Gumboro. A reminder of these vaccines has been successively the eighteenth (18th) and twenty-first (21st) days. Unfortunately it was found a few cases of coccidiosis in poultry during the fourth week of farming. To prevent the promulgation of the disease, medical measures were taken urgently. Thus, it was administered to all chickens a drug prescribed by a veterinarian on the farm. He was given 100 grams of Vetacox for 300 liters of water (Table 1)

2-1-2. Health prophylaxis

Regarding health prophylaxis, special emphasis was placed on water quality and food distributed daily. An area of 30 m² was cemented for drying foods. The tank that served as a source of water supply was disinfected once a week. A footbath was created at the entrance of the barn. The water in the footbath was renewed every two days. Sick birds during the breeding were placed under quarantine in booths to avoid infecting other animals. Those who died were regularly burned and buried in a pit outside the area of the farm. A discharge channel has been built on each side of the coop for draining rain water and waste water resulting from the cleaning of those inside the building. Garbage produced by farmers was put in garbage bags which are immediately sealed after being filled. They are then thrown into a pit about two kilometers from the site of the farm. Workers have used cresyl or bleach to disinfect the deposit once a week. With the materials and methods in place to conduct this study the following results were obtained.

III. Results and discussion

3-1. results

The start of breeding to finish, there were several dead chickens. However, there are times when mortality is almost zero. To better understand the phenomenon of mortality throughout the period of breeding, which covers 45 days, progressive mortality curve was plotted (Fig. 5) according to data from the data sheet.

The number of dead chicks on the day of delivery is very high (22 chicks died). We note that the third and fourth day, dead chicks exceed ten per day. However, from day 43 to day 12, the number of dead chickens did not exceed the value 5.

3.1. 1. Determination of some production parameters

Calculations of average weight, consumption rates and average daily gains were made constantly. The results are represented by curves in the figures below. The average weight of chicks in the first week is about 45 grams. It changes every week depending on the treatment received. This evolution is represented by the figure below (Fig. 6).

The evolution of "Cobb standards" curve is above the one we obtained. The different weights are obtained in relation to the calculated consumption indices. These are shown in the figure below (Fig. 7). In addition to these indices, those "Cobb standards" have been shown to better appreciate both indices are capital poultry farming.

The two curves are scalable and intersect between the third and fourth week in a value of 1, 46. All time curve indices consumption "Cobb" is above that obtained in the "farm Sahuye". There is a notion of transitivity between the average weight, feed efficiency and average weekly earnings. The first two parameters produce absolutely the third. But to understand the evolution of the average weekly earnings during this study, the following curves (Fig. 8) were drawn from the data sheet recorded breeding.

Discussion

In breeding of broilers, there are generally three phases, but these can be reduced by two. This is the stage and finishing. During the first phase, which runs from the first day until the twenty second day, there were 84 dead chicks. And during the second phase was observed 44 dead chickens. In total there were 128 dead chickens on 3000 subjects during the 45 days of culture. Is a mortality rate of 4, 26%. The live chickens 2872 correspond to a rate of 95, 73%. Both levels can be described as fairly good and acceptable. The evolution curve of deaths is decreasing. And places it merges with the on the horizontal axis at points where there is no mortality. Overall, it has a snaking look. Despite vaccines that have been made in time and health measures prophylaxis who accompanied the medical protocol several deaths were recorded. But according Markestad (2007), immunization practices are the most effective measure in breeding. In the same idea, Maillard (2000) argues that when a collective and contagious infection occurs on a farm with large populations and changes in an acute manner with enough consistent evidence to incriminate one or more bacteria, it must treat the whole group. Keller (2001) goes in this direction, saying he should be given antibiotics to poultry as healing to cure various diseases. But according to Gordon (1979) observed the medical prophylaxis administered by means of poultry vaccines are not made in order to heal animals. From the foregoing, it can be said that these are tips to consider and implement useful if there is need to reduce mortality and prevent the disease from spreading.

As middleweight observed and recorded. The chicks were delivered with an average weight of 45 grams. During the weeks that followed they gained weight but moderately. By comparing the "weights Cobb standards" to those obtained during the study, we see that the chickens from "breeding Cobb" have a significantly higher average weight. The average weight obtained at the end of the breeding is 965 grams. The "Cobb weight standards indicated is 1145 grams" is 1 145 kg. The difference between the two weights is equal to 180 grams. The two curves (Fig. 7) are spaced from each other. Chickens raised by "the company Cobb" have a steady growth throughout the rearing period. Those raised on the farm Sahuye, in a chicken in hot climates grow less. The graph expresses this in the figure above. Indeed, these chicks "Cobb strain" from France, temperate region and introduced into a tropical farming should take time to acclimatize. Climate change has certainly played a role in their growth.

Consumption indices obtained and those offered by "the company Cobb" are different on every week. We obtained for the first two weeks of lower than "Cobb standards" indices. From the fourth week the opposite happened until the end. The resulting indices are higher this is why the evolution curves of the two indices intersect between the third and fourth week at the 1.46 value of "standard index Cobb." At the end of the tape, feed efficiency obtained is close to 2, (CI = 1.91). This reference is equal CI = 1.57. Both indexes above the value of 1, 50 and less than 2. This can be described as good. In general, the livestock sub-Saharan countries, the value of the consumption index is greater than or equal to 2 ($IC \geq 2$). Regarding the average weekly earnings, those obtained at the end of the second week of livestock and "weekly earnings standard Cobb" as reference is almost similar. The difference between the two gains is almost imperceptible because it is only 0, 6 grams. But from the third week until the end of breeding, are well above average weekly earnings "Cobb standards." The two curves representing (Fig. 8) show the evolution of earnings. The average weekly earnings obtained during the study grow normally until the fourth week point 4 on the horizontal axis. This corresponds to the value of 27 grams. At this same point, the value of the standard "Cobb" is 31 grams. In the seventh week, which is the last week we received an average weekly gain amounting to 55 grams while the value of the "standard Cobb" is 62 grams. Thus, the line representing the average weekly earnings "Cobb standards" believes continuously.

It is almost linear because the average weekly earnings are meaningful. Example: value 4 = 31 grams, the point 5 = 43 grams. The evolution of average weekly earnings obtained during study is ongoing, but the weekly yield is very low and therefore insignificant. Example: value = 27 grams 4 and item 5 = 28 grams, the gain difference of 1 gram is minimal. Several factors can justify this. It may include the poor quality of water and food given to poultry is why Sauvant et al. (2002) advice observes the elements that enter into the composition of the feed livestock. Similarly, Jarrige (1998), in studies on cattle, sheep and goats also emphasize the power. Beyond these very important considerations to be taken seriously, note that a poorly made prophylaxis can also facilitate disease in a poultry farm.

Conclusion

The study of 3000 chicks "flesh strain Cobb" Sahuye farm located in the town of Sahuyé lasted one and a half months (45 days). The protocol established by the technician who conducted the breeding start to finish is generally acceptable. The rules and standards of use have been partially met. But the system has known a fault was what caused coccidiosis killing a large number of chicks over several days. The results obtained with the "farm Sahuye" after studying the various production parameters and those of "business Cobb" as reference are different but approximate. The first came from farms where made in farming techniques are

developed with highly qualified and experienced technicians using sophisticated equipment and appropriate temperate countries. The latter results are from a tropical country where working conditions are more or less acceptable. Breeding techniques are known theory of the breeder but there is a failure in practice due to the insufficiency of the first degree Moreover, the quality of food and water distributed is sometimes questionable. In this "farm Sahuye, the water pumped from wells surely was not drinking. Overall, despite the considerations raised, raising" Cobb chicks strain "can be done in Côte d'Ivoire since the results obtained are not catastrophic in the set. Simply improving farming conditions and ensures that the "chicks Cobb strain" can adapt to the tropical climate.



Figure 1: Internal view of the henhouse



Figure 2: Day-old chicks of "Cobb strain



Figure 3: a tank, power supply



Figure 4: a nebulizer for vaccination

Table 1: Treatment protocol

Age (Days)	Preventable diseases	Vaccines and veterinary products used	Doses and routes of administration
3	Colibacillose	Coliteravet-trisulmax	30 grams per 50 liters of water for drinking water
4	Infectious bronchitis + Newcastle	H120+HB1	5 grams per 10 liters of water for drinking water
8	Gumboro	Cevac Gumbo L	10 grams per 30 liters of water in drinking water
11-14	Respiratory diseases	Oxymeg 50	25 grams to 50 liters of water
15-16	Colibacillose	Coliteravet	25 grams to 50 liters of water
17	Reminder Gumboro	Gumboro vac	20 grams per 40 liters of water
21	Reminder Newcastle	Lasota	20 grams per 40 liters of water
23-24-25	Coccidiosis	Vetacox+Coliteravet	Vetacox 100 grams, 200 grams Coliteravet for 300 liters of water
28-29-30	Respiratory diseases	Tylodox-Extra	100 grams per 300 liters of water
35-36-37	Respiratory diseases coccidiosis	Virunet+Tylodox	100 grams Virunet + 200 grams Tylodox for 300 liters of water
39-40	Coccidiosis	Vetacox	80 grams Vetacox 400 liters of water
41-42-43	Coccidiosis + respiratory diseases	Vetacox + Tylodox	80 grams Vetacox + 100 grams of Tylodox per 400 liter of water

Source: Data Sheet breeding

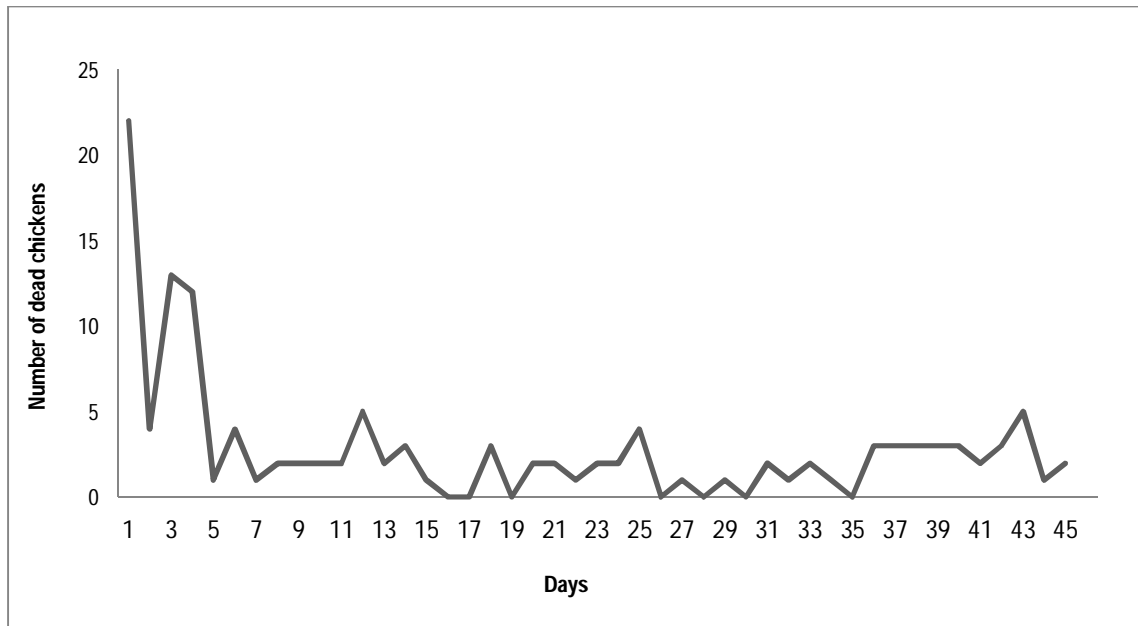


Figure 5: Curve evolution of mortality

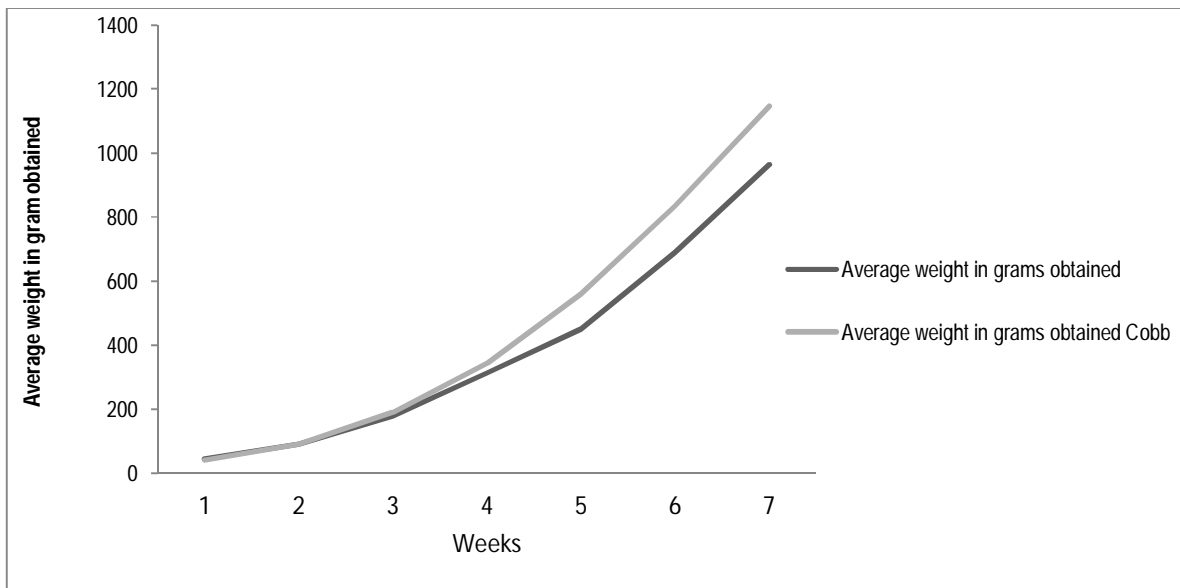


Figure 6: Curves of changes in average weight

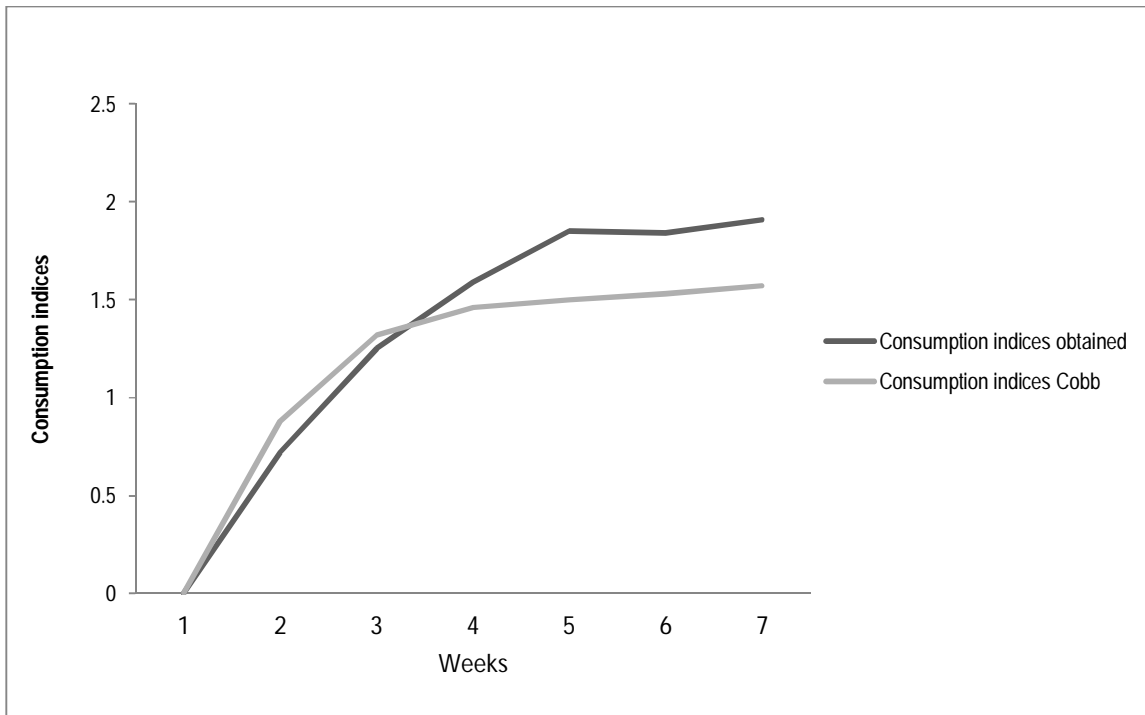


Figure 7: Curves of changes in the indices of consumer

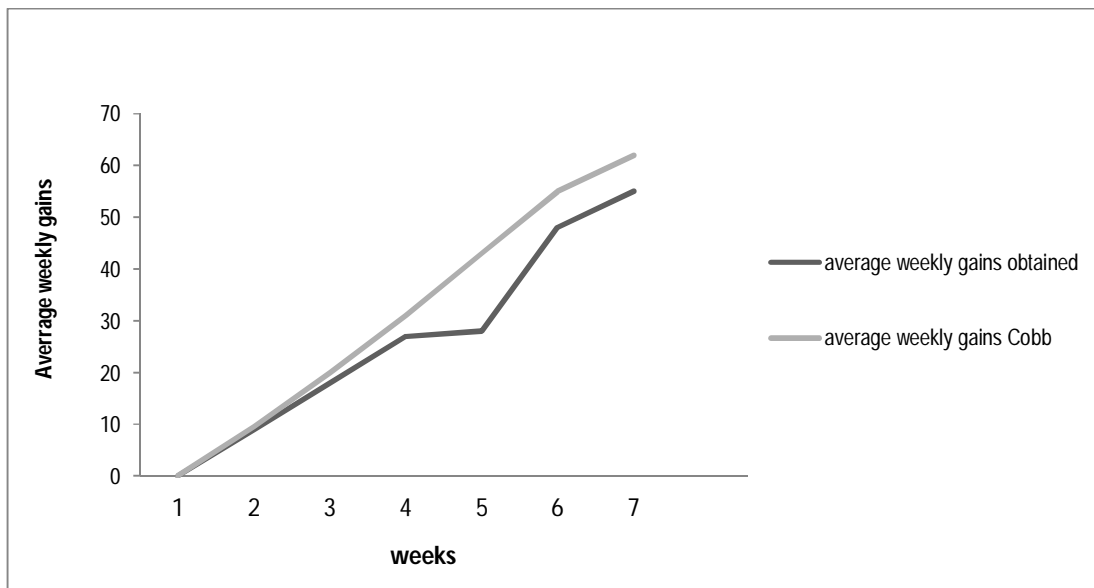


Figure 8: Curves of changing average weekly earnings

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