

OPTIMIZING KABIR (*Gallus gallusdomesticus*) RAISING IN A TROPICAL SETTING

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Abstract

Backyard poultry raising is a shared culture in rural communities and a valued resource as an income provider. One way of enhancing poultry production and type enhancement is the introduction of new species. Introduction of new chicken species as a form of augmentation to the existing native chicken must be carefully assessed to establish the viability of species' survival and prevent the waste of invested time, money and effort. The study aimed to document the physical and biological adaptation of Kabir being a foreign species and potential income source. Likewise, the project aimed to document Kabir's behavior when subjected to local conditions. The study employed descriptive-experimental approach to arrive at detailed physic-biological adaptability pattern of the Kabir being a foreign species. It was found out, that Kabir being exposed to hot climate also be reared on free range mode, can be fed on kitchen left overs. Temperature, feeding, nourishment and reproduction is age dependent. Under unstressed condition, one female Kabir can lay as much as 23 eggs per cycle. While one male Kabir is capable of breeding with 20-25 female Kabirs. Kabir chicken raising is a potential livelihood opportunity to families that desire to have an additional income, and a source of "native style" meat with exceptionally nutritious and low cholesterol table eggs. As a backyard income-generating venture, Kabir raising can give a chance for hobbyist to become small scale growers hence augmenting the scarcity of eggs and fresh meat in the market. Kabir raising can contribute to the dynamism of the lifestyle of interested potential growers.

Keywords: backyard chicken raising, raising foreign chicken species

1. Introduction

Backyard poultry raising is a shared culture in rural communities and a valued resource as an income provider. One way of enhancing poultry production and type enhancement is the introduction of new species. Introduction of new chicken species as a form of augmentation to the existing native chicken must be carefully assessed to establish the viability of species' survival and prevent the waste of invested time, money and effort. The study aimed to document the physical and biological adaptation of Kabir being a foreign species and potential income source. Likewise, the project aimed to document Kabir's behavior when subjected to local conditions.

Today, poultry raising together with the entire industry is facing crisis. A small time businessman cannot finance the needs of the business because of the raising cost of antibiotics, feeds, labor, together with infrastructure requirements. Just like other animals and plants, birds if not fully supplied with medicine become vulnerable to disease and stress, thus requiring expensive raising, large quantities of drugs, feed time and controlled and artificial living conditions. Hence, the meat, of which is the industry's actual purpose, is very different with native chickens, which are traditionally grown in the backyard.

Kabir Chicken originated in the Middle East, where it is desired due to its very large size. Kabir means "large" in Arabic. The said breed of chicken has been distributed throughout the world, continuously gaining popularity because of its exceptional characteristics. Since its introduction to Philippines, Kabir has become an attractive alternative for native chickens. More likely it's expected, that if Kabir raising technology is popularized, the breed can be one of the most-in-demand for backyard and small enterprise flocks, and for this reason, an additional alternative source of extra income for community residents.

2. Justification

Today's consuming public largely depend on mass produced birds. Being produced by bulk, nourishment are commercially based and largely inorganic. Under this condition, since health is a priority concern, Kabir, being a free range chicken, is an attractive alternative for today's end-product consumers, who would like tastier, healthier and leaner bird than today's mass produced industrial broiler. These "old fashioned" birds are supposed

to possess firmer, textured and savory meat that is sought after in various niche markets such as gourmets in the west and millions of Chinese, within and outside of China. The researcher with an interest in agro business ventures and raising domesticated animals considered Kabir chicken and its viability as a boost for existing free range chicken in the Philippines, hence this study.

3. Statement of Objectives:

The study sought to verify Kabir Chickens' optimum responses when subjected to local conditions. Specifically, the proponent sought to accomplish the following objectives:

1. Establish the profile of "Kabir Chicken" in terms of its origin, biological and physical characteristics;
2. Conduct experiments to find out optimum responses of Kabir chickens considering the temperature and space requirements as parameters
3. Record observations on Kabir's feeding , water, sanitation requirements and reproduction behaviors;
4. Asses the economic implications of "Kabir Raising" in the Province of Rizal.

4. Methodology

The study employed descriptive-experimental approach to arrive at detailed physico-biological adaptability pattern of the Kabir being a foreign species. A total of one hundred twenty (120) day old Kabir chickens were purchased. The subjects were observed utilizing growing, space, water, and sanitation and temperature requirements along with the reproduction behaviors. The researcher arrived on the implications of the study by thoroughly assessing the results of the gathered data complemented with conducted triangulations with concern clients.

Data were carefully recorded and analyzed and were utilized as a basis for the development of an instructional material for Kabir raising.

5. Related Literature and Studies

Aini (1990) claims that poultry industry of South-east Asia has two important types of production. These are: a commercial sector, characterized by its use of highly intensive units and the fact that it has developed very rapidly over the past two decades; and the traditional

village-based system which has been little affected by the increasing numbers of commercial birds. Further, almost every rural community keeps small flocks of indigenous chickens under a backyard type system. The sheds as described Aini (1990), when provided, are made from local materials. Further, the birds are fed kitchen left-overs and sometimes supplemented with cheap, locally available grains, most of their time is spent scavenging.

Narushin and Romanov on their study on physical characteristics of eggs found out that physical appearance and characteristics of the egg play an important role in the processes of embryo development and successful hatching. The study stipulates that the most influential egg parameters are weight, shell thickness and porosity, shape index, described as maximum breadth to length ratio, and the consistency of the contents.

Zuber and DeAlmeida (2009) studied the influence of the factors on the productive performance of free range broilers under commercial rearing conditions. The result of study asserts that sex seemed to be the only factor that affect growth characteristics. Those with genotype as naked neck animals had poorer growth rates than normally feathered. Further, the research resulted to no effect on carcass yields and percentages of carcass components for any of the tested variables. Further from the data presented, practices associated with free range production were of relative inconsequence to the technical animal production parameters and can only be justified by a pressing need to differentiate these products from standard poultry products in what concerns both welfare issues and meat characteristics.

6. Findings and Discussions

Profile of “Kabir Chicken” in terms of its origin, biological and physical characteristics:

Kabir in terms of its origin: Kabir chickens bear ancestral basis wherein strains were carefully selected from the good old flocks fifty years ago by a certain agro-business company in Israel. In the past decades, Kabir has been bred, concentrated and expanded its unique gene pool, eliminating and desirable genes and traits accordance with the needs of different markets. In the process of strain development, inbreeding has been eliminated for reason that this can influence the entire basic system of production and its potential. Over the years, Kabir has developed of it exclusive Plymouth receives White Rock with a correct blend of the sex chromosomes with sex linking genes, can offer the answer to virtually every type of market requirement, while reducing production costs.

Biological Characteristics: Kabir breeds are strong and healthy that they can be bred and reared without antibiotics, resulting higher profits and lower costs. Kabir chickens are similar with native chickens. It is superior for meat conversion because of its rapid growth, the good body conformation and efficient feed conversion. The chicken is resistant to disease and heat stress. It has a “native” taste and texture. When crossbreed with native chickens, the Kabir eggs are low in cholesterol.

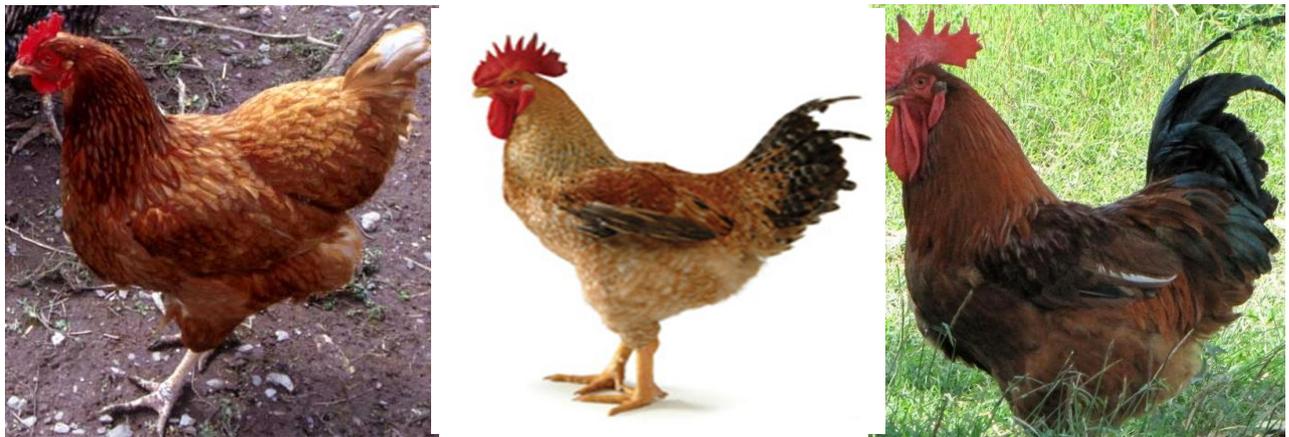


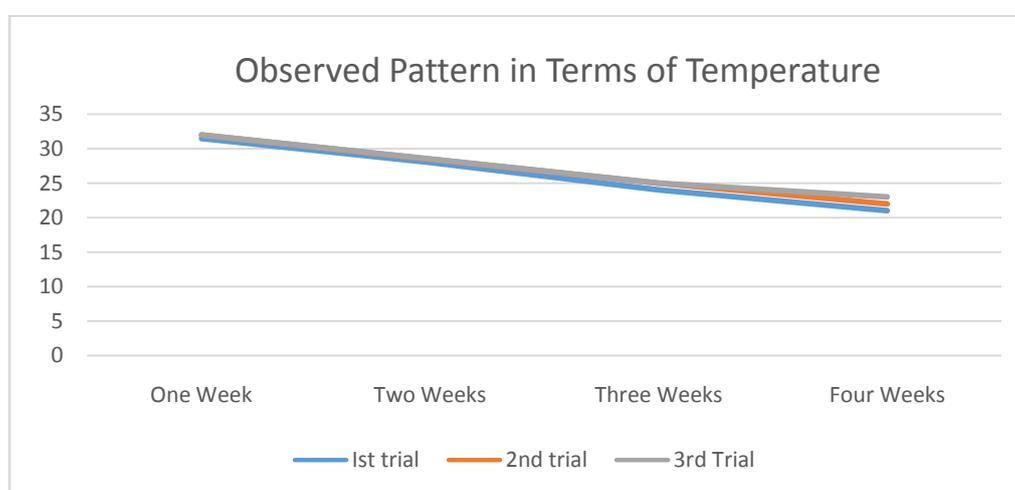
Figure 1
Images of Male and Female Kabir

Physical Characteristics: Kabir chicken maybe white, black, gray, reddish orange or a combination of colors mentioned. According to literatures, pure strains of Kabir are covered with white/yellow feathers. Male Kabir can weigh as much as 2.5 kilos in just nine weeks while a female Kabir can weigh as much as two kilos in the same number of weeks. The Physical appearance of Kabir can be mistaken with a native chicken except that they are bigger in stature. In terms of their movements, a full grown Kabir is similar with that of an ostrich. Because of its weight, these chickens cannot fly high. Growths of loose, short and fine feathers are very observable in the lower portion of their thighs.

Observations on optimum condition patterns in terms of temperature, space for growth, feeding/water requirements, sanitation and reproduction requirements:

Table 1 Observations on Optimum Condition Patterns in terms of Temperature

Age of Chicken in terms of no. of Weeks	Temperature	Remarks
One week	32 °c	Starting temperature
Two weeks	28.5 °c	Less 3.5 °c/week
Three Weeks	25 °c	Less 3.5 °c/week
Four Weeks 21 days	21-23 °c	



As the chickens grow, they need less heat to keep them warm, so the temperature of the shed is gradually lowered by about 0.5°C each day after the first two days, until it reaches 21 - 23°C at 21 days. The optimum temperature depends on the age of the chicks; Heat source maybe electric lamp, coal stove or heater. For the first 2-3 weeks, chicks should be lit throughout the day. The researcher aims to maintain shed temperatures within this range, although in sheds of large birds towards the end of grow-out, the temperature may be reduced.

Table 2 Observations on Optimum Condition Patterns in terms of Space Requirement

Age of Chicken in terms of no. of Weeks	Space requirement	Remarks
One week	1mx1m/20 chicks	

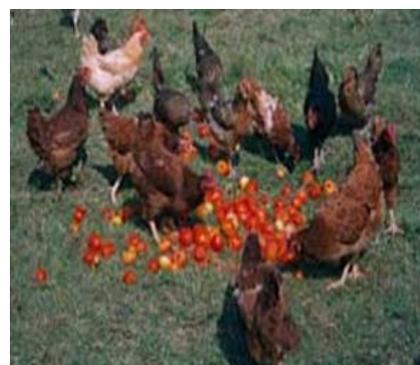
Two weeks	1.5mx1.5/20 chicks	Increase of .5m/week
Three Weeks	2mx2m/20chicks	Increase of .5m/week
Four Weeks 21 days	2.5mx 2.5 m /20chicks	

As the chickens grow, the area available to them is increased until they have free run over the floor of the entire shed. The survival performance of chicks is subjected to various space measurements.

Table 3 Observations on Optimum Condition Patterns in terms of Feeding Requirements

Age of Chicken in terms of no. of Weeks	Feeding Requirement	Remarks
One week	Very fine Rice Bran	From the 2 nd day, ready-made feeds for chicks maybe administered
Two weeks	Mixture of concentrated feeds with added ingredients	From the second week mixture of commercial feeds and mixture of finely grated corn, rice, cassava etc. maybe given
Three Weeks	Corn, rice, cassava, compound feed etc.) twice a day for 7. for 10-15 days	Besides free ranging, chicken should be supplied with feed (corn, rice, cassava, compound feed etc.) twice a day. for 10-15 days before they are marketed
Four Weeks 21 days	Broken rice and yellow corn as they want	Chicken should be allowed to eat as much broken rice and yellow corn as they want. The feed can be supplemented with coconut grates.

Besides free ranging, chicken should be supplied with feed (corn, rice, cassava, compound feed etc.) twice a day. for 10-15 days before they are marketed, they should be allowed to eat as much broken rice and yellow corn as they want. The feed can be supplemented with coconut grates.



Considering the cost of commercial feeds, broilers aged 1-6 weeks, maybe given feeds without limitation. However, 7-10 weeks: 45-55 g/head/day; 11-16 weeks: 55-65 g/head/day; 17-20 weeks: 70-80 g/head/day.

For laying hens, 1-6 weeks without limitation; 7 weeks and over: 115-125 g/head/day. Laying hens should not be given too much feed or laying will be delayed. Minerals should be added in the form of bone meal or oyster shell.

Table 3 Observations on Optimum Condition Patterns in terms of Drinking Water Requirement

Age of Chicken in terms of no. of Weeks	Water Requirement	Remarks
One week	Clean and warm (16-20°C)	Temperature maybe maintained due to the presence of the source of heat
Two weeks	Clean and warm (16-20°C)	Temperature maybe maintained due to the presence of the source of heat
Three Weeks	Clean	Temperature maybe maintained due to the presence of the source of heat
Four Weeks 21 days	Clean	Temperature maybe maintained due to the presence of the source of heat

After the chicks are brought to their new home, they should be allowed to rest for 10-15 minutes. Then they should be given drinking water containing 50g sugar/dL and 1g Vitamine-C/dL. The drinking water should be clean and warm (16-20 °C). The situation is best applicable up to four week old chicks. Older chicken may enjoy lower water temperature.

Sanitation The cage if the chickens are in confined areas must be clean. However, if chicken are on the free ranged condition, the environment must be safe from dogs, related canines and toxic garbage. Though the concept is under the free range mode, for safety reasons, fencing is likewise advisable.



Reproductive Behaviors: Chicken behavior involves dynamic movements. Roosters attract the female's attention using various courtship movements such as wing panicking and flapping, spreading of feathers to increase perceived size, vocalizations, precopulatory waltz and stressing of plumage characteristics. Competition among roosters was observable and having two roosters in a cage oftentimes result in severe rivalry, fighting, serious injury and even death.

Copulation: The rooster uses his beak to grasp the back of a female chicken's head, once he has succeeded in interesting a female. He will then utter a growl as he approaches the female with a side-step to mount her. The rooster then orients his cloaca towards her. Once the female chicken is ready, she ends up squatting during this process. The male then steps on the female's back, which can be dangerous if the spurs are too long. The rooster at that point ejaculates, then make some winning movements like spreading his wings, and walks away.

In general,

1. One male Kabir is capable of breeding with 20 to 25 female Kabir.
2. Normally, Kabir chicken begins laying after 26 weeks or 6 ½ months.
3. Kabir layer can lay as much as 23 eggs/cycle.
4. Brooding among female Kabir chicken is late. Brooding encouragement maybe adopted.

Socio-economic implications of “Kabir Raising” in the Province of Rizal:

1. Kabir chicken raising is a potential livelihood opportunity to families that desire to have an additional income, and a source of “native style” meat with exceptionally nutritious and low cholesterol table eggs. As a backyard income-generating venture, Kabir raising can give a



chance for hobbyist to become small scale growers hence augmenting the scarcity of eggs and fresh meat in the market.

2. Kabir production can contribute to the economic and social development of the barangay, in particular, and the whole province, in general. In some provinces and municipalities in the country. Kabir chicken raising can serve as an alternative livelihood development project aimed to benefit needy families and constituents.
3. Kabir raising can contribute to the dynamism of the lifestyle of interested potential growers. Kabir chickens' large size and handsome aloof with its feeders, can serve as a promising therapy for the hobbyists.

7. Conclusion

Kabir raising as proven in the experiments and recorded observations is a very promising income generating venture. Chickens that were allowed to grow as free range survive with very minimum supervisory and budgetary requirements. Given the technology a chance, can help enhance the economic status of a community.

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