

We have had a very hot muggy time coming round Aden and in the lower part of the Red Sea; but now as we approach Suez it is fresher. We ought to be there about midnight.

I trust that the Union will go on increasing in numbers, stability and vitality, and will for long continue to be a strong bond amongst all those connected with the scientific agricultural work of Saidapet and Coimbatore.

I hope you have a most successful meeting.

Yours Sincerely,

(Sd.) D. T. CHADWICK.

---

### **Poultry—What to Breed and how to Manage them.**

---

[LECTURE BY MR. A. C. BULLMORE AT THE MADRAS EXHIBITION  
JANUARY 1916.]

Your Excellencies, Mr. Chairman, Ladies and Gentlemen.—The subject selected for this evening's lecture, as you know, is about "Poultry—what to breed and how to manage them. In dealing with it I must apologise for the hasty manner in which I was compelled to prepare a subject of such intense interest and importance as this for your consideration this evening. My time has been so fully occupied in preparing separate exhibits for the present Show, that for the past ten days I have hardly had any time to devote to this subject. I must therefore ask you to kindly overlook any shortcomings in my treatment of it.

In this lecture it will be my aim to present, in as brief a manner as possible, the main features of successful poultry raising. The novice may be enthusiastic, but his enthusiasm may lead him to underestimate the value of careful selection and management. The majority are under the impression that rearing of poultry requires no special knowledge or experience. Many are therefore led into the

business not only with erroneous ideas, but have exaggerated views of the profits to be derived from it.

Many people, especially those living in the country, still keep on in the old ruts, breeding and managing without system. If successful and profitable poultry are wanted, they must have the same attention and proper management as any other stock. Those who think that there is nothing more to be done than to put a few fowls in a shed, and to throw a little corn at them two or three times a day in order to secure an abundant harvest of eggs, are sadly mistaken. Fowls can only be kept profitably by systematic management, and anyone who has not time or is not prepared to go to the trouble of keeping them properly should not keep them at all. Poultry keeping, taken generally is a subject which bears a double aspect, and is to be regarded from two points of view. From one point, it is to be viewed as a hobby, taken up and handled for the pleasure that is to be derived from it. From the other, it is to be considered as an employment, followed sedulously as a means of livelihood and pursued for the profit and emolument it will yield.

First, let us look at it as a hobby, as a means wherefrom to gather enjoyment, and a mode for whiling away many a passing quarter of an hour, which might otherwise be wasted and thrown away. It gives those who follow it something to think about at early morning, at mid-day, perhaps, and in the evening when the daily work is done, and the employment from which the means of living are obtained is put aside for the time, to be taken up again on the following day with increased zest and pleasure, by reason of the change of thought and change of work to which recourse has been had in the interim, a change that has led to the recreation and recuperation of body and mind and has taken the thoughts into other channels by which they are refreshed and restored from the daily cares inseparable from bread-winning and the daily struggle for life.

In all probability the fowls are kept in confinement in a small run devoted to their safe keeping, and a means of preventing them from doing any mischief to the owner's garden, if he has one, or to the

gardens of his immediate neighbours. Well, in this case there will be often something in the run and the poultry shed itself that demands attention, a little bit of mending, involving manual labour here and there, renewal possibly in one part and improvement or enlargement perhaps in another. There is pleasure to be gained from the pleasure in thinking out what is to be done, and pleasure in doing it after it has been thought out.

The selection of the best breeds depends upon the tastes and opinions of people. Some may choose to rear many breeds together, others again prefer a pure black coloured breed, whereas some prefer a spangled or spotted breed, and some a pure white. Then there are the different objects of keeping fowls. Some keep them solely for the table, some only for pleasure and merely to look at, whereas others again the majority, keep poultry to make a big business in breeding and selling, which is the most profitable and pleasing, I fancy. The best fowl to keep and breed I should say is the fowl of the day. All poultry are layers, but there are some breeds which have won a name for themselves in every way and mostly in their laying qualities. Laying is a matter of strain rather than breed; for in every breed there are good, bad and indifferent layers; but there is little doubt that there are certain breeds from which there is a better average result than others.

I am often asked which I consider the best general-purpose fowl, Well, I should think, taking all in all, as regards colour, size, shape, laying qualities, and a good hardy breed, the Orpington class will more fully meet the demands of the person who wants to keep one variety, such as the Buff or White Orpingtons. Indeed there are other breeds, but the above-named varieties are a long neck ahead of the English Class. The White and Buff Orpingtons are hard to beat for an all-round general purpose fowl, especially when they have been bred in line for laying. Several things are to be considered in choosing a breed of fowls. First, what is your object in keeping fowls? Do you want to keep them for eggs and table, or do you look upon the fancy part of the business? Have you one acre of ground, or is it ten acres? Possibly it is only the back part of your house.

There are breeds of fowls to suit all these conditions if you will only give a little study to the situation. A person must have an object in view and work all the time to that end to make much of the success of the chicken business as well as anything else. If you have plenty of room—say five or ten acres—and want to keep chickens just for fresh eggs for the table, I would say select one of the smaller breeds of the Mediterranean type; for instance, the Leghorns or Minorcas; for with plenty of range they have been proved to be splendid layers and great foragers, but they must have room to do much good. I think any good breed of standard fowls will suit for the fancy business, if you can provide the conditions that suit the fowls, but right here is where you must do a little thinking.

Don't make the mistake of trying to raise small breeds in close confinement or the big Asiatic breeds with too much free range. If you are considering the fancy poultry business, just make up your mind as to the kind of fowls you most admire, and the one with which you think you will be successful. Stay with your best choice. If your space of ground is limited, I think it would be wise to take up the breeding of Wyandottes, Orpingtons, or Rhode Island Reds, for these large fowls stand confinement well, and if given the right kind of treatment and good wholesome food they will lay plenty of eggs—in fact they will lay better than some of the smaller breeds under the same conditions. You will have better results and will not be liable to become discouraged. You will do better with about 60 or 70 chickens well attended to, than three or four hundred with the same attention.

The demand for extra choice stock was never so great as it is now and must of necessity be greater day by day. In the first place, there are now more fowls shown than ever before, the number of Poultry Shows is rapidly increasing, and the offerings by the Associations are being annually made more attractive to exhibitors. So it is that the quality of the stock shown is yearly being raised and the demand for good stock is now far greater than the supply.

The present high prices of eggs and poultry will undoubtedly have a tendency to bring many beginners into the poultry world. The

first question confronting a beginner will be: "What kind of poultry will be the most advantageous to keep?" To this, I will say, start right; do not be persuaded to buy mongrels, for the following reasons:— First, it does not cost any more to feed pure bred birds than mongrels, Second, there is nothing so pleasing to the eye as a flock of birds of one variety. Third, pure bred birds will lay as many eggs as mongrels under the same conditions. Fourth, eggs from pure bred birds will bring an equal price for market and a much higher price for hatching. Fifth, surplus cockerels and pullets of pure breeds find a ready market at a good price. For a stated sum from a dealer you will get quantity when buying mongrels and quality when buying pure bred stock. It will cost more to start with birds bred to standard requirements, but the results will show in the end that an increased expenditure for pure bred birds in the beginning is the more economical course. As an illustration, let us take one of the most practical crosses of to-day, that is, the Leghorn male with light Brahma female. It is a well established fact that a Leghorn hen is the egg machine today, and that the Brahma is a bird which looks well on the Christmas table. Knowing the predominant characteristics of these two birds, we will say as a figure that the Leghorn hen lays 260 eggs in a year, and the Brahma, being meaty, lays, about 150 eggs per year. The results obtained by crossing the two is that we weaken the laying qualities of the Leghorn, as the pullet from this cross will lay on an average 175 per year and some of the good table qualities of the Brahma are also lost. Eventually nothing is gained, whatever gain there may be in one is lost in the other by this cross breeding.

If you have never paid particular attention to poultry but are starting to be interested in the subject, I believe this little talk will do you good. I was a beginner once myself, and know just where all the pitfalls and stumbling blocks in the business are to be found. I know how to get out of them without being bruised and blackened until discouragement looms up higher than a mountain. The trouble with a good many beginners is that they expect too much. I remember when I was exactly in that position I thought all I had to do was to get a few chickens, and take my

case until the rupees began to roll in. You and I will never see the time when poultry and eggs will not be in demand at profitable prices.

This is my advice :—To the beginners I would say, don't expect to get rich the first year ; it is better to begin with a small flock or a few settings of eggs from a reliable breeder, and be content with small profits at first. You will be learning all the time how to handle and deal with larger flocks. You will grow into the business and in a very few years be ready to give your whole time to it.

The selection of the male birds is important, as they must be full of vigour. It is always advisable for those who are contemplating the purchase of new stock birds—no matter whether for laying purposes only or for breeding utility birds, or better class birds for exhibition, or those which are required for exhibition at once—to take care to obtain birds which are really suited to meet their requirements, as much disappointment is saved by the exercise of care in this direction. Unfortunately there are many who purchase a small pen of birds on account of their looking nice and being of a moderate price, and they find that they have bought fowls which are costing them money all the time and giving them very little return for it. In the various breeds of poultry we must remember all are not alike. There are some delicate breeds which are pretty to look at and need great care. They cannot stand too much confinement, and it would not be well for people in India to keep them. Probably they could not thrive and are unproductive. They are not worth while keeping except as pets.

The breeds mentioned are all profitable to keep, and it stands to reason which the fancier chooses ; and whichever he does care must always be taken in the mating breeding, feeding, housing, etc., in order to get a good egg production. But out of all these,

if the object of the fancier is to obtain a real large supply of eggs and good birds, to gain a large profit in sale, with the least trouble, the very best breeds to keep would be the Orpington, Wyandottes, or Leghorn. A general purpose fowl and best for table is the White Orpington, its flesh being pure white, juicy and tender.

I shall briefly touch upon just a few useful breeds of fowls. Now we will take the Leghorn family. There are all told six varieties, but I only here mention about four, which prove to be the best and most popular. The six varieties are the Black, White, Buff, Brown, Pile, and Duckwing. The two last I leave out of mention. Leghorns are a very popular breed and have a very good laying quality. The head points of all the varieties in Leghorns are alike. The comb of the cock is single, evenly serrated and erect, while the hen's falls to one side. Their faces, combs, and wattles should be bright red, with white ear lobes. The body should be small and compact, with short legs and high standing tail, with yellow legs and beak except that of the brown Leghorn which should have a brown coloured beak.

Plymouth Rock :—These are a useful and a good general purpose fowl. The hens are very good layers of brown shelled eggs of a good size. Both male and female are hardy, and stand confinement well, if fed properly, although bred to better advantage if kept on a large run. The chickens are easy to rear and fatten easily. There are four recognised varieties, viz., the black, white, barred and buff. All the varieties are yellow-skinned with yellow beaks and legs, and the Black, White and Buff are self-coloured. The only variety needing mention in plumage is the barred Plymouth Rock, which should be grey white, formed evenly round the body with bars or bands of bluish black.

The Wyandottes :—These are a very good breed of fowls, being good table birds, hardy and excellent layers. They re-

semble the Plymouth Rock somewhat in shape and are very popular. There are four principal varieties mainly, viz., the white, buff, silver-laced, and gold-laced; but the white seem the best and most popular. The plumage of the white and buff is self-coloured with bright featherless yellow legs, rather short. The plumage of the silver-laced male should be quite silvery, each feather in the lower half of the wing coverts white with black edging; the hackles silvery white with a distinct black stripe through each feather.

Orpingtons:—The sub-varieties of the breed are black, buff, jubilee-spangled, cuckoo, blue and white.

The Black Orpington was the first variety introduced by the late Mr. William Cook. It is an all-round, good fowl, a decent layer of brown eggs, and a good table fowl, its flesh being tender and white. The Orpington is in all the varieties a pretty shaped bird, having a full broad prominent breast, short-curved back with a full feathered body, standing on thick short legs. The plumage of the Black Orpington is deep black, with green, sheen free from any other colour.

Of all the Orpington varieties, the White Orpington is the best in every way. It is a very popular fowl, and is becoming more and more so daily, the reason for which is its undoubted utility qualities. It is quite easy to rear, and hardy, and no layer of brown eggs can equal it in its laying qualities. In plumage it is the prettiest. The White Orpington, the standard of perfection, is snowy white, free from a speck of any other colour; its shape is that of the Black Orpington, being broad breasted, rounded and full; short curved—with a bold upright carriage; face, comb, wattels and ear lobes bright red, pretty red eyes, with short stout, white legs perfectly free from feathers.

I realise that it is too delicate a subject to speak upon the good point, of any one breed over others, as every fancier has his



own favourite breed, which generally meets all his requirements. As I have had practical experience with over 20 different popular breeds during the past few years I ought to be in a position to say why I decided on my favourite breed of fowls; and after once coming to this decision, I have kept on improving my stock until my fowls are known all over India. That the White Orpington is the most popular fowl of England to-day, no well-posted poultry man will deny. Its reputation is fast spreading over all parts of the world. There has never been a breed of fowls on record that has originated on the same sound principle as the Orpingtons, for they are what is known as an out-bred breed and as a result of many years' practical out-breeding, where the poultry raiser's main object is to produce the most eggs and best market fowls at least expense and trouble.

The first and most important subject after the poultry fancier has selected his breed and wishes to gain success, is the selection of the poultry houses. They are not very expensive to construct and the regard which all fanciers have for their poultry should carry them to the great interest of seeing to all the requirements and comforts of the birds, which is bound to lead to a profitable and pleasing business.

All poultry houses should be erected under proper supervision, the first to be made is the choice of the ground, and aspect of the house, which should be in an easterly direction. Good hard dry ground is required, which should be raised about 6 or 7 feet above the level of the surrounding ground, and rammed down well, and loose gravel thrown over this. Artificial flooring such as bricks, boards, tiles, or any kind of stone is not advisable. Brick are the worst for the floors, as they retain great moisture; boarded floors are not good as they get saturated with all the excreta of the birds, and cause the atmosphere in the poultry house to be very unhealthy. Tiles are similar to bricks and mean damp flooring. Cement is another floor which people think of but it makes a very

cold one, unless covered with some dry material. So the best flooring for poultry houses would be good hard dry ground, covered over with a carpet of dry earth; sand is also very nice to spread over, but great care must be taken that the floor is swept out every morning, and fresh sand spread again.

The next step to be considered is the walls of the poultry houses, these can be built either of brick or wood. Some people build with mud walls. I do not advise this, because of rats and snakes, which might easily get in by boring holes in very quick time. If the walls are built of wood, great care must be taken that each plank is closely joined to the other to prevent big crevices. All the crevices should be filled carefully to prevent draughts, or any vermin resting inside, then the whole of the walls inside properly tarred.

The third step regarding the house is roofing, which is a very important matter. The roof of the poultry house should be made quite sound and attached on well, to stand rough weather and strong winds.

The size of the poultry house should not be extra large. It is a great mistake for people to think they can house all their poultry together in one large room. Too many fowls cannot be placed together in one large room, as it causes unhealthiness to them, and if an epidemic were to break out, such as roup, cholera, pox, etc., there would be very little chance of saving any part of the flock. Separate houses for poultry in small lots are the best, and even more so for those who keep a very large stock. Attached to each house on one side there should be the scratching shed.

Some people imagine that birds do not require much light and air in their houses. This is a very silly impression to be under indeed, and I must mention that birds are as fond of light and fresh air as human beings, and they also need them as much. We

cannot expect the fowls to thrive in dark and entirely closed houses. All poultry houses should have a window which can be closed or opened according to the weather, and as the poultry fancier desire it. The width of the perches should be about 2 to 3 inches, the edges should be nicely rounded to allow the birds a good hold. They should be of the length of the room and far enough from the wall to prevent the cocks' tails being destroyed.

The next requirement in a fowl house is the nests. These can be placed near one side of the wall, made from dealwood in the shape of a box, a square large enough for the hen to sit. It should be 6" deep to hold the straw which completes the nest. Nests can also be made from earthenware, such as a large flat-bottomed chatty, 5 or 6" deep, and can be filled with fine sand or ashes for the laying hens.

Another matter which should always be considered for fowls in each shed is the dust bath for the birds to roll and bathe themselves in, which helps to cleanse them from any vermin. This should be of very fine dry sand or sifted ashes, or even clean road dust placed in a good heap, which should be renewed daily; and the previous dust bath which has been removed ought to be thrown a good distance away from the fowl yard, in case it should be infested with any vermin. The fowls will be found in their greatest delight bathing and cleaning themselves in the dust bath every day.

The feeding of poultry is a matter that should be well-attended to, and nothing but the best of all kinds should be given. Stale goods or old rotten grains are very bad for fowls. One of the chief and most natural foods is grain, though they cannot entirely live upon it; for the fowls also need a fair amount of soft and green foods, but grain ought always to be supplied them at the proper time. There are various kinds of grains and some are more nutritious than others. Many fanciers think that

mixtures of grains are more suitable than supplying each kind separately, but this is not so in every case. It must all depend as to how the poultry keeper finds his birds thriving. Of all grains, wheat is considered the best, either given whole or coarsely ground. Then there are oats, barley, peas, beans, Indian corn, gram, and maize. Oats, form a very good food, and nothing equals it for adding size and stamina to young stock. Barley is good when given as barley meal mixed in other food or with skimmed milk or water, but fowls in India will not so readily eat it as a whole grain. Peas and grain are the richest in albuminoids, and are very good for the laying hen. Indian corn is very fattening for fowls, but should not be given very often to poultry kept for breeding purposes.

Another important matter we come to concerning the fowls' food is the green food. Without this it is impossible to keep fowls in perfect health. A daily supply of green food is grass: hence the reason it is so necessary to have grass runs for the birds.

The importance of grit, oyster shell, and charcoal ought never to be forgotten, for in addition to the daily food it is necessary that the fowls be supplied with these. Grit is very important, and you will always find the fowls readily eat it as well as oyster shell and charcoal. We must always remember the fowls have no teeth, and if not supplied with sharp grit they won't be able to digest their food. Grit acts as teeth to fowls, and should not be mixed with the food, but a quantity of it should be placed in the run in a grit box, so that the birds may eat at will.

The morning meal should consist of soft food, given as early as possible. Many people fancy that grain should be the bird's first meal, but this is not correct, as the birds are empty stomachs, having fasted the whole night; and grain given to them the first thing in the morning takes a long time to digest, and has to be ground in the gizzard first.

The evening meal should be of whole grain thrown to the birds ; allow them to run after it, and pick it at their will, just an hour or so before sunset. The grain is a good thing for the evening meal, as it takes long to digest, not causing the birds to be empty-cropped by morning. All refuse such as scraps of meat, bread crumbs, vegetable, curry and rice from the table can be given to the fowls.

I shall now give you a bunch of good tips for poultry keepers. Provide gravel, it means teeth. Provide ventilation, it is health. Provide sulphur, it prevents disease. Provide lime and bone, they supply a want. Select the best-shaped and largest eggs from the best layers for hatching. The best absorbers to strew on the floors and under the roosts are sand and road dust. One of the best tonics for chickens, and probably one of the simplest, is to keep a handful of old rusty nails in each dish from which they drink. The rust is the oxide of iron sold by druggists, and the tonic made is as good as the sale article.

I have, within a limited period, given you the bare outlines of how to select a good strain of poultry and how to manage them. There are various other points connected with poultry keeping, such as mating and breeding, eggs for hatching, care and rearing of chickens and diseases of poultry and their treatment. I am afraid if I touch upon all these, however briefly, it may be take up too much of your time. I shall therefore close with one request, if you are anxious to become a successful poultry breeder for pleasure or profit, and are doubtful as to the best means of doing it, please come to me, and I shall endeavour my utmost to put you on the right track. In conclusion, I beg to thank you, Your Excellencies, Mr. Chairman, Ladies and Gentlemen, for your kind interest in listening to what to me is an absorbing subject.

---