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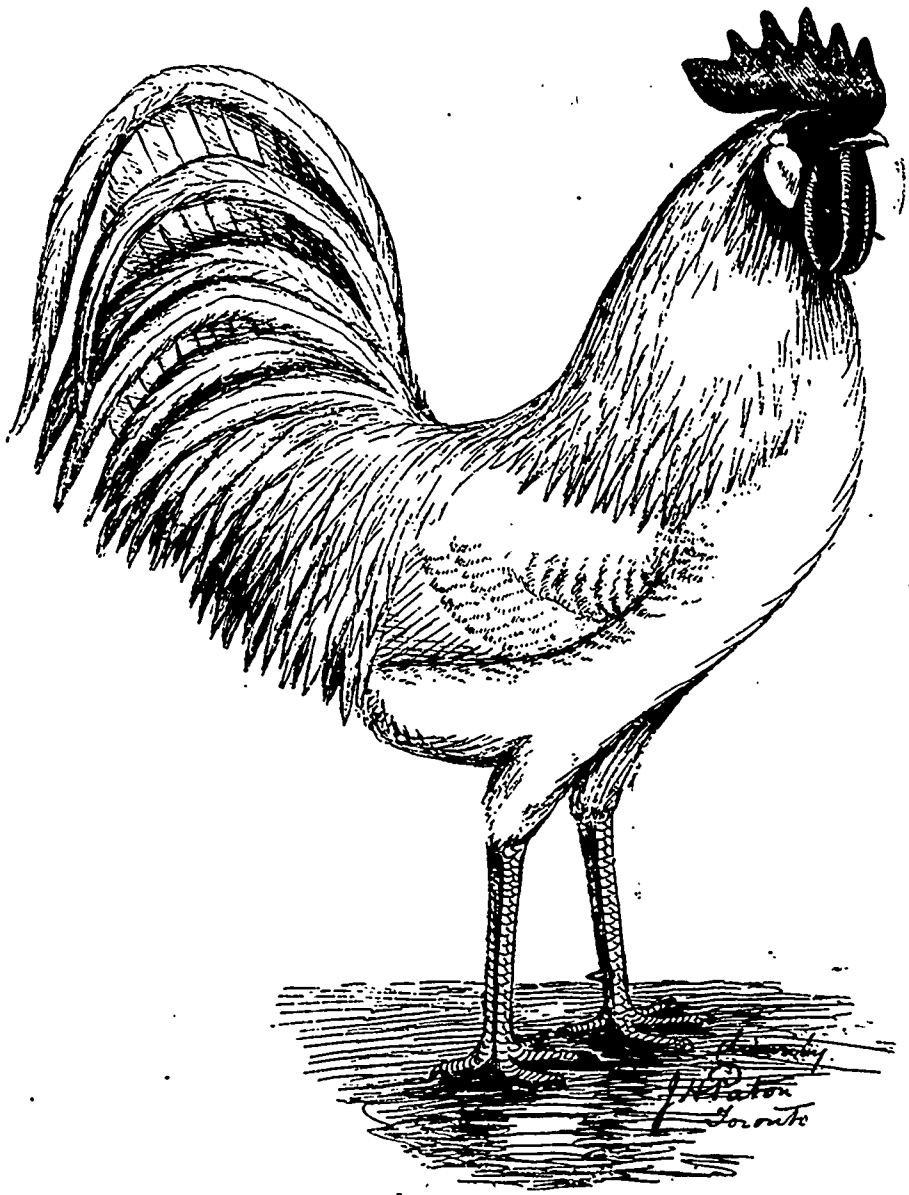
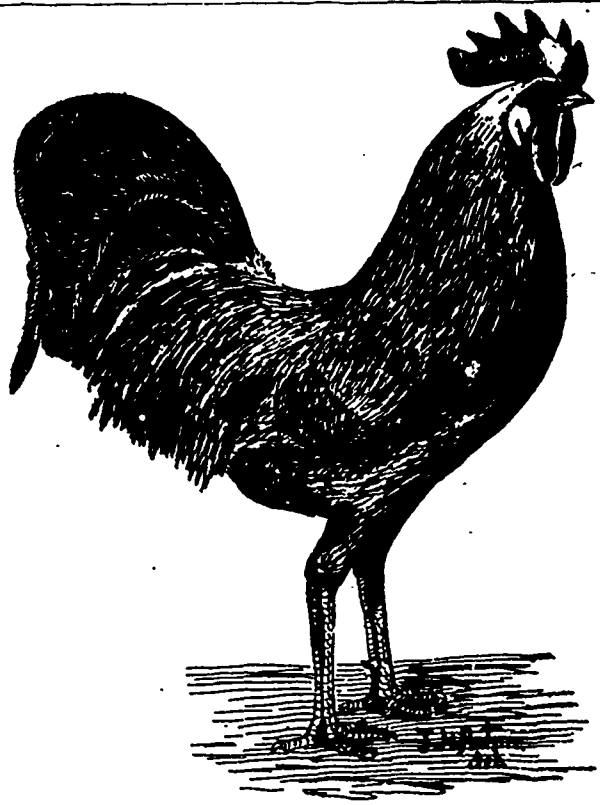


White Leghorn Cock OLD RENZIE, foundation of Paton's Champion strain of Brown Leghorns, bred by J. H. PATON, Toronto.

*Canadian Poultry Review, Toronto, July, 1896.*

THE CANADIAN POULTRY REVIEW
DEVOTED TO POULTRY, IN ALL ITS BRANCHES

VOL. XIX. 124 VICTORIA STREET, TORONTO, JULY, 1896. No. 7



Brown Leghorn Cockerel PARIS, bred and owned by J. H. PATON, Toronto.

## NOTES AND COMMENTS

### THE CENTRAL CANADA EXHIBITION, OTTAWA,

EVIDENTLY believes in the power of the press as their appropriation for advertising has been doubled this year and the REVIEW gets its share. Many attractions have been added and more money is offered on poultry than ever before, and all on single entries. We hope to be able to give further particulars in next issue.

### MR. E. H. BENJAMIN,

the Superintendent of the Ottawa Fair, was in Toronto last month and paid us a chatty visit. From him we learn that Mr. Butterfield will judge the Ottawa Fall Show, that the building has been improved and further improvements are in contemplation, and that a special prize of five dollars will be offered for the best exhibit of Turkeys, Ducks and Geese.

### GREAT EASTERN EXHIBITION, SHERBROOKE.

Announcement of this show will be found in our business columns, the dates being August 31st to September 5th. Entries close August 24th and the liberal way poultry breeders are treated should lead to a much larger entry than heretofore.

### INDUSTRIAL EXHIBITION, TORONTO.

We would remind exhibitors that the poultry have to be in place this year on or before noon of Thursday, September 3rd, that is the Thursday of the first week of the Exhibition. We need not say how liberal the Association has been in the way of additional classes, but it is hard now to find a variety not catered to in the schedule. We look for an immense show and preparation is being made to receive a greatly increased entry. Entries close positively on August 22nd.

### MR. R. H. ESSEX, TORONTO,

it will be remembered, had his cellar flooded last March, destroying the eggs in his incubator and otherwise damaging his stock. The following from the Toronto *World* gives the result of his suit against the city: On March 29, during a thaw, the premises of R. H. Essex, 13 Emerson Avenue, were flooded and his apparatus for raising fancy fowl badly damaged. He brought action against the city, which was tried on the 15th, 16th and 18th of May. Yesterday Judge

Morgan handed out judgement, giving him $125 and costs, deciding against the city's contention that they are not bound to provide sewers for surface water, and that in any case the thaw and flood were extraordinary and unexpected. DuVernet & Jones for the plaintiff and Mr. Fullerton for the city.

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MR. A. G. H. LUXTON, HAMILTON,

left for a visit to England last month. While there he will look up the principal Indian Game breeders, in which breed he is interested.

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RIDGETOWN BANQUETS MR. GRIGG.

A local paper says: Mr. A. J. Grigg, a popular citizen, who has carried on a jewellery business here for some time, was given a complimentary banquet at the Arlington Hotel last night. A fairly representative gathering was present and a most pleasant evening was spent. Mr. E. MacKay, B.A., occupied the chair, while Mayor Watson was seated in the vice-chair. Mr. Crigg leaves Ridgetown to-day for Clinton, where he will conduct the business of his uncle, Mr. Biddlecomb, who retires.

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A HATCHING EXPERIENCE.

A valued correspondent writes: Mr. R. T. Croft of Laskay, York Co., Ont., reports a hatching experience which is interesting, as it shows in a most convincing manner the folly of in and in breeding. Mr. Croft purchased a quantity of black Minorca eggs for hatching about the 1st of March last. These he placed in a Toronto Incubator, with the result of 47 chicks out of 167 eggs. As Mr. Croft had hatched 35 chicks from 36 fertile eggs the previous fall he concluded that the eggs were at fault, and not the machine, so to test the matter he placed 110 eggs in the machine from his own fowls and 80 eggs from the same flock of black Minorcas as before. On testing the eggs 102 from his own fowls were found fertile, and 97 strong chicks were hatched. Of the black Minorca eggs only 46 were fertile and 17 chickens hatched, and very weak ones at that. On further investigation Mr. Croft discovered that the man from whom he purchased the eggs had not introduced any new blood into his flock for five years, and in addition to that had been following the worst possible course year after year, by killing the old rooster and replacing him with one of his sons. Is it any wonder the eggs would not hatch? Mr. Croft expressed his opinion in unmistakeable terms to the man who would impose on the public by selling such eggs for hatching.

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IN AND IN BREEDING

has no fears for us if intelligently carried out, but that of a promiscuous nature is fatal to constitution and, of course, success. Constitution, health, size, fertility, can be built up as well as down, by the use of none but the most vigorous stock, and the experience of our most successful breeders will show this.

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MINORCAS IN EARLY SEASON,

as far as our experience goes, will not give a high ratio of fertile eggs, especially so where the cocks are not dubbed or where old males are used.

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## BRANTFORD POULTRY ASSOCIATION.

ON Thursday evening, June 11, a number of poultry fanciers met in the Court House, Brantford to organize a Poultry and Pet Stock Association to hold a winter show and to select a committee to work in conjunction with the Southern Fair board who propose to hold a grand fair, birds to be shown singly. The officers elected were:—President, Geo. Wright; Vice-President, Thomas Raines; Secretary, J. H. Marshall; Treasurer, Geo. A. Weightman; Committee, A. McEvoy, D. McKenzie, J. Cameron, R. C. Middlemiss, C. W. Griffith, J. E. Oberlin, John McDonald, John Hawthorne, Stephen Green, John Hill, John Lewis, Geo. Huber, Thomas Lunn, John Foley, Fred. Keen, Joseph Norris, R. Hamilton, Norman Fountiar, R. L. Lundy, Henry Shaver, S. Suddaby, W. M. Cortnage, Hartley Waddington, Joseph Potts, James Burns. The President, Vice-President, Secretary, and Treasurer were appointed to act with the Southern Fair Board.

The meeting adjourned for one week.

J. H. MINSHALL,
Secretary.

Brantford, June 15, 1896.

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*Fowls*, London, England, the most practical of the English papers reprints from REVIEW in its issue of June 18th, Mr. Paton's article on poultry house and the Brandon and part of Mr. Gilbert's annual reports.

## THE WHITE COCHIN BANTAM.

BY H. S. BABCOCK, PROVIDENCE, R. I.

SOME years ago the Cochin Bantam was represented in this country by a single variety, the beautiful buff, then called Pekin Bantam. Later on came the white, the black and the partridge.

Whence did the white Cochin Bantam spring?

We breed not only the buff Cochin Bantam but we breed also the interesting feather-legged Bantam, the white booted. It differed from the Cochin greatly in shape, but it was white and it had feathered legs. By and by white Cochin Bantams began to appear. It was not surprising to find that they possessed fewer Cochin characteristics than the buff, that they were deficient in cushion and excessive in tail. They were just about such birds as would result from a cross between the buff Cochin Bantam and the white booted. From such a cross doubtless very many white Cochin Bantams sprung.

But all did not originate in this way. The writer remembers judging the poultry at Augusta, Georgia some years ago, and among the fowls were a lot of buff Cochin Bantams, and four of the handsomest whites he had ever seen at that time. The buffs were good in shape, light buff in plumage, with considerable white in the wings. Upon inquiry it was learned that the buffs were the parents of the whites and the latter were pure Cochin Bantams. These were unquestionably "sports." In the hundreds of buffs which the writer bred he had never a sport, but that fact prove nothing. Here was a clear case of sporting and investigation confirmed the statements of the owner. Some, because they have never had any personal experience with sports, deny the possibility of such happenings, but they deny it in the face of overwhelming evidence. They put their experience against the experience of the world, and it needs not to be said that they are in a woeful minority. These white Cochin Bantams were the best of proof of the power of "sporting" in fowls, for they were Cochins from comb to tail of the very best type, quite unlike the so-called ones which had been bred from a cross of the booted white and the buff Cochin Bantam. But the writer remembers that white specimens have appeared among crows, blackbirds, quails and sparrows, peacocks, Spanish, Hamburgs, Minorcas and other breeds of fowls, and deer and bear and other kinds of wild animals. This tendency to produce Albinoes even invades the human family, and in a certain portion of Massachusetts there is a small settlement made up largely of Albinoes. In these men the eyes are pinkish and the hair white. It is too late in the day, and the evidence is too overwhelming for one to successfully deny the occasional appearance of "sports."

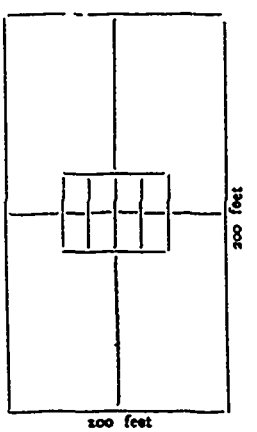
In these two ways, by judicious crossing and by "sports," the white Cochin Bantam was produced. By the former method probably the greater number were produced. But what matters that now, for careful breeding has given us in this Bantam a perfect diamond edition of the white Cochin fowl—its counterpart in everything but size. And it certainly is a very attractive Bantam—quiet in its ways, gentle and tame, living at peace with all its companions, a moderate layer, a perfect sitter and mother, easily restrained, thriving in confinement, a very good Bantam to own, to breed, to sell.

## PROFITABLE POULTRY KEEPING.

BY T. A. WILLITS, TORONTO, ONT.

*(Continued.)*

BY a typographical error in June REVIEW, page 94, eleven lines from bottom of page, I am made to say that the yards were 200 feet long by 40 feet wide. This is all wrong. To explain again, each house of four rooms is built in the centre of a piece of ground 100 feet wide by 200 feet long, the narrow side of the lot facing south, the house is in centre of lot, front facing south; thus the front of house would be 94 feet from the south end of lot, and each end of the house will be exactly thirty feet from the side of the lot, thus:



So each pen of breeding fowls has a yard 100 feet long by 50 feet wide, which includes the floor space of their room in the house. Ten bales of wire netting will fence a piece of ground 200 feet square, which is nearly one acre. I like this arrangement of yards and houses better than any other that I have seen. The distance from any house to the next is only sixty feet, and the fowls have what is as good as unlimited range.

It will be found in practice that fowls will do much better housed and yarded thus than in one of the long fowl houses that we so often see illustrated in the poultry journals. The writer has had experience with a house of this sort 265 feet long divided into pens 12 feet wide, with yards attached 125 by twelve feet. The fowls kept in this house never at any season laid as many eggs as those at liberty; they never seemed content, and were never in such vigorous health as the other fowls. The pens in this house were divided by boards three feet high and the passage way, which was three feet wide, was divided from the pens by boards four feet high and then wire netting to the roof, and the division between the pens had wire netting from the top of board partition to the roof.

There was always a strong draft of air in this building, and the greatest care was necessary to keep roup in check in the winter; the fowls seemed to have an aversion to taking exercise in their long narrow yards and occupied their time in loafing around the house, just outside of it as well as inside of it; they were constantly on the watch for their attendant—the moment he entered the building every fowl rushed inside, mounted the perches, and eagerly watched for his approach, the fowls in the far end of the house were on the qui vive almost as quickly as those at the end where the attendant entered, each pen of birds making a frantic rush for the perches the instant they heard the birds in the next pen doing so, they seemed afraid they might miss something if they strayed any distance from their pens.

We will now return to our description of the houses we propose to erect for one hundred Plymouth Rocks.

One of the great desideratums in a poultry house is warmth in winter, and to secure this I should be much inclined to fill the walls between the paper with dry sawdust if it could be obtained cheap enough. There have been many objections raised to the use of sawdust for this purpose; it has proven a refuge for rats and mice, and an absorbent of water, causing dampness, but if used with discretion I am convinced it will be found valuable. For the distance of one foot above the ground I would fill in the walls with mortar, when that was hardened and quite dry I would put in the sawdust. There would be very little danger of dampness ever reaching the sawdust from surface water, and I don't think rats would gnaw a hole through the tarred paper to get at the sawdust, as they dislike tar in any form. Another thing, the nearest point at which they could reach the sawdust would be one foot above the ground, unless they gnawed a hole through the mortar filling, which is extremely unlikely. In speaking of the mortar filling as being one foot above the ground, I mean on the outside, on the inside it would only be six inches above the ground, as the floor would be raised at least six inches above the level outside, and would be composed entirely of earth, which I consider in every way superior to board floors—they are easier cleaned and never at any time become as filthy as board floors, as the top stratum can be removed with a spade and clean earth put in its place, but the board floor saturated with liquid filth from the droppings cannot be removed, and is constantly poisoning the atmosphere. An earth floor is warmer in winter and free from drafts and much better suited to the nature of fowls, as they delight to scratch in it in winter when everything out of doors is frozen up. I would have a window for each pen with double sash for winter use, and in summer would remove them entirely and use wire netting screens of a mesh small enough to keep out such vermin as weasels, mink, rats, etc

I believe fowls should be out of doors as early in the morning as their nature prompts them, therefore each pen would be fitted with a small sliding door, which would be closed at night to exclude nocturnal marauders, and would be opened automatically by the fowls in the morning by simply jumping off the perch, which would be hinged at one end and free at the other with a spring underneath it; relieved of the weight of the fowls the spring forces up that end of the perch, which releases a detort, causing a weight to drop which opens the door. No patent on this, gentlemen, so go ahead and use it; you will not then be forced to rise from your slumbers at 4 a.m. in the springtime. (The Lord help the last hen if she didn't jump quick enough.—ED.) The three partitions dividing the house into four rooms I would make of flooring seven-eighths of an inch thick; it is true it costs a little more than rough boards, but it is enough better to be worth the difference; such flooring can be bought for $17 to $18 per M, while rough boards will bring $14. If I did not use sawdust for filling in the walls I should sheet up the entire inside of the house with this flooring, being very careful in lapping the joints of the tarred paper. I would have no roosting benches, but would have a bottomless box two feet wide and the length of the perch placed under each perch, or if placed under two

perches running parallel make the box three feet wide; the box is simply four pieces of board nailed together, and rests on the earth floor—I would cover the top with two in. mesh wire netting—the droppings pass through the wire netting and the fowls are thus prevented from scratching in the filth; another advantage of it is that if any soft-shell eggs are laid from the perch they drop out of reach of the hens, and thus it is a preventative of egg eating.

A light door wide enough to admit a wheelbarrow should be in each partition and should come within twelve inches of the ground; this twelve inch space below the door should be closed with a moveable board fitting into grooves, that it may be removed to admit the wheelbarrow, and when in position it prevents the fowls slipping through the doorway when the attendant enters. It will be found a great convenience if this door is made to swing both ways and close itself.

I would have no nest boxes on the floor, as I think it encourages hens to eat eggs. I would use any common box of a suitable size that may usually be had for nothing from your grocer; these should fasten to the sides of the house three feet from the floor, and I would have them removeable so that they might be cleaned easily.

I think this description of the house is complete enough to be readily understood, and in conclusion I may say that if you can keep your fowls in a temperature not lower than 30° Fah. at night in winter you have as good a house as you could wish if you spent four times as much money on it. Next month we will consider the erection of fences for our two Plymouth Rock houses, and also the houses for our Leghorns.

*(To be Continued.)*

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## AMERICAN COCHIN CLUB, BUFF COLOR REPORT.

YOUR Committee do not at the present time recommend the fixing of any one single shade as the Standard "rich deep clear buff" They recommend that in the showroom any shade not lighter than what is known technically as buff and not darker than ochraceous shall be accepted as Standard, and that no shade or tint within this range shall have any preference over another.

The surface color should be one bright even shade of rich clear buff throughout, perfectly sound, free from blemish and all foreign color. The main tail and flight feathers as free as possible from all foreign color, positive black or white to be considered objectionable in a like degree, although a trace of black in coverts of the flight feathers, should not be regarded as a serious defect. The under color *should be perfectly sound, but not necessarily the* same shade as the surface color. Eyes, bay; beak, legs and toes, rich yellow; comb, earlobes and wattles, bright red.

Your Committee recommends that this Committee or another be continued in power until the next annual meeting, with full power to contine their efforts and to define the colors so that they will be better understood by those interested. The Committee has been in communication with more than fifty fanciers who are interested in the buff Cochin, both in this country and in England. Without mentioning names, they take this opportunity to extend their thanks for the courtesy and the valuable aid that has been given them in their work.

Respectfully submitted,

JOHN C. SHARP, JR.,
PHILANDER WILLIAMS,
NEWTON ADAMS,
Committee.

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### BLACK COLOR REPORT.

Your Committee would respectfully submit the following, viz.: That feeling as they do the great importance of bringing black Cochins up to the Standard of the buffs, which are acknowledged by all as the model Cochins of the day, that the first consideration for the breeder is shape, and congratulate the specialists in this breed that so marked an improvement has been made within a few years.

Regarding color, the Committee consider preferable both for exhibition and breeding a lustrous greenish black throughout showing great sheen in the sunlight, avoiding as much as possible both the purple and brown shades of black; the under color should be rich black throughout. *Color of comb, wattles and earlobes, a clear, bright red.*

The Committee would recommend that color disqualification should be entirely omitted from the Standard and that the breeders should use great care in the selection of their breeding pens for the next few years to enable them to produce birds so free from white or other foreign colors and of such high Standard and in such qualities that the idea of plucking or otherwise treating the plumage artificially would not suggest itself to even the most unscrupulous of us.

DAVID A. NICHOLS,
ALBERT E. SWASEY,
J. MERSELIS KIPP.
Committee.

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WHITE COLOR REPORT.

On behalf of the Committee on color for white Cochins of your Club, my Committee would like to recommend that in the Standard set forth by the A.P.A. for this breed, that amongst their disqualifications that of color be eliminated, i.e.—from "Feathers other than white, etc.," be stricken out as a disqualification; and we recommend that there be added that "The desire of all breeders is to attain a pure white throughout, a yellow shank and beak, and a good bay eye preferred. Gradation from these points should not work as an absolute disqualification, but that if two fowl are equal in other respects, that color should count." We are after the true Cochin type—then the true color.

I am, Yours truly,

EDW. BROOKS,
NEWTON ADAMS,
J. D. NEVIUS,
Committee.

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PARTRIDGE COCHIN, MALE.

*Head*—Bright red; beak, yellow or horn; eyes, bay; face, bright red.

*Comb*—Bright red.

*Wattles and Earlobes*—Bright red.

*Neck*—Bright red or dark orange red, with a distinct black stripe extending down each feather, running nearly parallel with the edge of the feather and tapering to a point near its extremity; the red or dark golden edge of feather to be free from black.

*Back*—Plumage of the back, dark reddish brown; of the saddle, bright red or dark orange red, with a black stripe down the center of each feather; the red or dark golden edge of the feather to be free from black, the same as in the hackle.

*Breast*—Plumage, rich, deep black.

*Body and Fluff*—Body, plumage, rich deep black. Fluff, plumage, black.

*Wings*—Bows, red, the fronts black. Primaries, black on the inside web, and with a bay edging on the outside web. Secondaries, black on the inside web, rich bay on the outside web, and terminating with greenish black at the end of each feather. Wing coverts, greenish black, forming a well defined bar of that color across the wing when folded.

*Tail*—Plumage, black. Sickles and coverts, glossy, greenish black. Lesser coverts, glossy, greenish black, or glossy black edged with red or dark orange red.

*Legs and Toes*—Thighs, plumage, black. Shanks, yellow or dusky yellow. Plumage, black or brownish black. Toes, yellow or dusky yellow. Plumage, black or brownish black.

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PARTRIDGE COCHIN, FEMALE.

*Head*—Plumage, rich brown; beak, yellow or horn; eyes bay; face, bright red.

*Comb*—Bright red.

*Wattles and Earlobes*—Bright red.

*Neck*—Bright red or dark orange red with a distinct black stripe extending down each feather, running nearly parallel with the edge of the feather and tapering to a point near its extremity; the black stripe may be slightly pencilled; the red or dark golden edge of feather to be free from black.

*Back*—Plumage of back and cushion, mahogany red, distinctly pencilled with brown or black, the outlines of the pencilling conforming to the shape of the feather.

*Breast*—Plumage, mahogany red, distinctly pencilled with brown or black, the pencilling being of the same character as that of the back, and reaching well up on the throat.

*Body and Fluff*—Body, plumage, mahogany red, distinctly pencilled with brown or black. Fluff, mahogany red, distinctly pencilled with brown or black.

*Wings*—Bows, mahogany red distinctly pencilled with brown or black. Wings, primaries, a very dark brown or blackish brown. Secondaries, the inner web a blackish brown, the outer web a blackish brown pencilled with a lighter brown. Coverts, plumage, mahogany red, pencilled with brown or black.

*Tail*—Plumage, black, except the two highest main tail feathers, which are pencilled. Tail coverts, well pencilled the same as breast and body.

*Legs and Toes*—Thighs, plumage the same shade of color as those of the body and distinctly pencilled. Shanks, yellow or dusky yellow. Plumage, same color as that of the thighs and distinctly pencilled. Toes, yellow or dusky yellow; plumage same as that of the shanks.

The Committee would recommend that all color disqualifications should be dropped.

Respectfully submitted,

GEO. W. MITCHELL,
NEWTON A. KNAPP,
WALTER C. BAYLIES,
Committee.

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New York Show next winter will be held from December 22nd to 26th inclusive. Mr. H. V. Crawford has consented to retain the position of Secretary.

## SCRAPS FROM REVIEW CORRESPONDENCE.

I AM going into the poultry business quite extensively and want to have things as convenient as I can. Have had pretty good luck hatching chickens this year. I have ten black Minorca and ten white Leghorn chicks two weeks old from eggs got from Experimental Farm, Guelph, and have twenty-four light Brahmas, thirteen of them hatched April 20th, and thirty dark Brahmas—the two latter are from my own eggs. A. D. HARKNESS, Irena, Ont.

June 8th, '96.

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I thought it might be of interest to REVIEW readers to know whether the questions I asked the Editor in June issue had reliable answers or not. I did as he said in every case and the results could not have been more satisfactory. So all poultry men can depend safely on the REVIEW as a reliable medium. G. A. PEARSON, Brown's Corners.

[We wish all who receive advice in answer to queries would promptly reply, whether effective or otherwise.—ED].

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I have had bad luck so far this spring, and I want to make the most of the time I have left. I only got about 300 chicks from over 1000 eggs, and then I had 102 of my chicks and brooder burnt. I like the REVIEW, I have got a great many pointers out of it. R. T. CROFT,

Mayy 22, '96. Laskay, Ont.

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In sending my own subscription to the REVIEW I am also sending a new subscriber, a lady fancier that is going into the poultry business with a determination to boom it in Eastern Ontario, and it behooves the Western breeders to look to their laurels or they will be left in the shade, especially London and Toronto fanciers. When the ladies undertake raising fancy poultry it will surely be a great industry, as the above-mentioned is intending to purchase a 600-egg incubator to start with next spring, and we expect to see some grand specimens of the feathered race at the fall shows of 1897 H. L. KERR, Greenbush, Ont.

May 21, '96.

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As my subscription has almost expired I thought I would renew it by sending you three new subscribers and my own as well, so you will please send the REVIEW to the following gentlemen at their address: F. W. Breen, Beaulah, Man.; Alfred Morton, Birtle, Man.; Earnest Fisher, Birtle, Man. You will please find enclosed $3, being the amount of subscription to the REVIEW for one year commencing with the June number. I have been a subscriber to the REVIEW for many a year and I am much pleased with it and would not be without it while in the poultry business for twice the money it costs for the year. My chickens are hatching well this year and I will have a grand lot of S. C. B. Leghorns and buff Rocks this fall. W. T. BEIRNES, Birtle, Man.

June 9, '96.

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Mr. W. H. Kirby, Oshawa, reports very good hatches from his S. L. Wyandotte and Red Cap eggs, every egg hatching in some settings. These with rose-comb black Minorcas are the only varieties he is raising this year. He has nearly one hundred chicks out altogether, having also done a large egg trade this season, a good share of which was obtained by advertising in the REVIEW.

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I have a fine lot of young Bants and Pheasants this spring and they are all doing remarkably well.

R. OKE, London.

June 8, '96.

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*I have about 200 chicks out doing fine, but had poor luck* with the early hatched ones. J. C. LYONS, Lucknow.

June 6, '96.

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## IN REPLY TO MR. MEYER.

*Editor Review:*

IN the interests of the incubator trade I desire to protest against some of the ridiculous statements and the inconsistency of Mr. Meyer's letter in June REVIEW.

To be brief it is in my opinion nothing more or less than a tirade against the gentlemen who made the awards in this section of the Exhibition last September, and savors strongly of a desire to create unfavorable opinions of those who fared better in their hands than he did. It is perhaps a pardonable vanity for Mr. Meyer to think his incubator "the best on earth," but as the judges did not endorse his opinions he has evidently taken it as an affront and now insinuates that they were incompetent, and asks "Is it not a ridiculous farce from beginning to end?" He also says "that it is utterly improper for any one man or any body of men to say which is the best incubator and brooder without either using or seeing them used for at least three weeks."

If this is really Mr. Meyer's belief will he kindly tell us why he came to Toronto Exhibition last September with his machines? Was it because he thought there was a remote possibility of capturing the coveted silver medal by hook or by crook?

He knew before he came that the awards would be made by the Poultry Committee, and he knew just as well as anybody else who were the gentlemen composing that committee their names appearing in full in the prize list. I presume if Mr. Meyer had been awarded the silver medal last September his letter in the June REVIEW would never have been written.

That the judges carefully considered their decision is proven, I think, by the fact that they refused to sustain a protest entered by a disappointed exhibitor, and still further by the fact that nobody has ever advanced any good reason for questioning their judgment, and to insinuate that they were either unfair or incompetent after committing one's self to their decision is, to say the least, discourteous and unmanly.

Referring to Sec. 1, "In this section a first prize of $10 and second prize diploma are offered for the iucubator hatching the largest percentage of live chickens or ducks. No machine to contain less than 75 fertile eggs at the time same is brought to the exhibition. Any machine having less than this number of fertile eggs to be excluded from this particular competition."

Mr. Meyer says this would not be so bad if every machine were placed on an equal footing, but thinks that because he lives in Kossuth and the exhibition is to be held in Toronto that it would be unfair for his machine to compete in such a contest. I beg to suggest that Mr. Meyer has the privilege of running his machine in Toronto prior to the opening of the exhibition if he so desires, but if Mr. Meyer cannot arrange to do this I can only see one other way out of the difficulty and that would be to induce the Industrial Exhibition Association to hold the show in Kossuth instead of Toronto.

The statements made by Mr. Meyer are of a nature well calculated to have an injurious effect on the incubator trade by creating a wrong impression in the minds of the public and will be regarded by every business man as a most insane and suicidal course for one to take who pretends to be in the business, perhaps it is more malicious than suicidal, but in that case Mr. Meyer should hesitate to injure the trade of others even if he has none of his own to suffer. If all incubators were of the sort that Mr. Meyer writes about the public would never want any of them. He says: "We know very well Mr. Editor that these great incubator records of the show room are made by testing out first all clear (unfertile) eggs on the fifth or sixth day, then again on the twelfth or thirteenth day testing out all weak doubtful, poorly fertilized eggs, and again a few days later a final test with a good tester will discard a few more dead or suspicious eggs. The result of all this care together with the excellence of the machine, to say nothing of the man at the helm, will be a magnificent hatch of perhaps 73 chickens out of 75 fertile eggs, or to put it differently (the way that is never told to the public) 73 beautiful chickens out of from 200 to 300 eggs, or perchance 600 or 800 eggs were used and the result will be more chickens hatched than all other competitors combined. The public were never told that twice as many eggs were used and the result will be more chickens hatched than all competitors combined. Verily there are tricks in all trades but ours."

I regret exceedingly to learn that Mr. Meyer's machine is of this type, I had hoped better things of him and his machine, but after the astonishing statement which is all the more remarkable as it emanates from one who professes to be a manufacturer of incubators there is no longer room for hope, as Mr. Meyer doubtless speaks more particularly of the machine with which he is most familiar. On behalf of incubator makers generally I deny positively that Mr. Meyer *knows* that the shows room records are made in the way he says they are, viz., by incubating from five to ten times as many eggs as the number of chicks hatched; years ago with "old time" machines it was necessary to do such things but with the best modern machines it is quite unnecessary.

I have personally operated the leadings incubators of the United States, these are the machines that have made the greatest show room records, and I state positively that any and all of them will hatch every egg that could be hatched under a good sitting hen. It is quite true that the operator tests out from time to time unfertile eggs and eggs with weak germs, so does the man who sets many eggs under hens, but the machines that require from 300 to 800 eggs to produce 73 chickens seldom or never appear in the show room and when they do they usually suffer the fate they deserve.

Hitherto I supposed Mr. Meyer was possessed of better judgment and a deeper sense of justice to his compeers than to make statements that are utterly false and calculated to do injury to those engaged in an honorable business, it seems to me like a "dog in the manger" policy, if he cannot cut the hay himself he seems determined that nobody else shall. It has been asked in the REVIEW why it is required that the machines entered in Sec. 1 must contain not less than 75 fertile eggs. I believe the intention was to prevent parties showing a 200 egg machine with three or four dozen eggs in it, which is no test of what a machine can really do. I think the sub-committee showed wisdom in this, and investigation may prove that the committee

knows at least as much about incubators and brooders as our friend Mr. Meyer.

I trust Mr. Meyer will accept this communication in the same spirit in which it is written, viz., without prejudice or ill-feeling, it is simply my desire to protect the interests of the trade, and to refute what I consider unfounded and prejudicial statements. As far as the prize list for 1896 is concerned I care nothing whether prizes are offered or not, if it is the desire of other incubator makers that the machines should be simply placed on exhibition and no judgment passed or prizes awarded I have no objection to offer.

Apologising for taking up so much of your valuable space.

I remain Mr. Editor, yours very truly,

T. A. WILLITS.

Toronto, June 16, 1896.

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*Editor Review :*

IT would scarcely be fair to the Industrial Poultry Committee to allow Mr. Meyer's letter to pass without notice as I consider he is partly to blame. I might say that during our Exhibition last year I took the opportunity of asking each exhibitor (Mr. Meyer included) of incubators who was not satisfied with the prize list to write me his views on "How should incubators be exhibited so that the exhibit would not only be satisfactory to the manufacturer but to the visitors" but not a single reply was received. I may say that the present committee are of the opinion that an incubator ought to be in actual operation during the Exhibition.

Now, had Mr. Meyer and others who promised to give the Committee some pointers of what would be satisfactory to them, I am quite sure they would have been very glad to have done all in their power to serve the wishes of the exhibitors. What would be most satisfactory to the Committee I think would be for exhibitor each to send a machine to Toronto exhibition not later than the first of August, place them side by side in the same building under exactly the same condition and have a responsible, disinterested party run the machines. If three or four manufacturers will do that I will take the responsibility with the aid of my Committee to provide the necessary accommodation and see that a fair field and no favors are given to all.

Yours respectfully,

JOSEPH DILWORTH.

Toronto, June 26, 1896.

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Mr. Sharp Butterfield is one of the judges appointed to officiate at the St. Louis Show, Dec. 1 to 5, the other judge being Mr. H. A. Budge.

## POPULAR POULTRY TALKS BY PRACTICAL BREEDERS.

UNDER the above heading it is the purpose of the REVIEW to discuss one leading question in each issue of 1896, and we would ask you to lay your views on each question as concisley as may be before our readers. Kindly answer each question on a separate slip, numbering each slip to correspond with the number of the question. Do not fear to write because your spelling or grammer may not be quite up to date. We will gladly see that all errors of this kind are corrected before being printed.

QUESTION FOR JULY IS

What shade do you provide, artificial or growing, and how do you keep water cool and clean in runs?

*By A. A. Whitteker, Morrisburg.*

My run is an orchard and plenty of shade. I keep my drinking tank under a tree and give fresh water once or twice a day. I use a self-feeding fountain so that the water is not exposed.

*By Joseph Kinsey, Doon, Ont.*

For shade I have a wild plum hedge in one yard, grape vines for another, and the orchard provides shade for a third, and there are numerous other trees and shrubs in the yards. Pines furnish a good place for dust baths at the roots and they along with cedars are excellent shade trees for fowls. For old fowls iron ash pans holding a large pail of water are set underneath trees, they are cleaned and filled every morning. Chickens are given shallow pans placed in the shade—the pans are washed daily and kept filled with fresh water.

*By G. Anthony Pearson, Brown's Corners.*

My poultry are shaded with raspberry bushes and ornamental trees, and on hot days I notice the hens are always hunting in among these bushes, as it is cool and there is an abundance of worms and grubs, and the hens know it, too. The water or milk is kept cool by being kept in the shade, and it is kept clean by making them stick their heads through the laths to drink when they are shut up.

*By S. M. Clemo, Galt.*

Most of our yards have natural shade from trees. In those that have not we have planted sunflowers. At my house, shade being scarce, I dug up an old sod half of the back yard, planted it with potatoes, put in deep so they needed no hilling, and a more perfect shade for early summer I never saw. I may say, while visiting London last July I learned the potato game from Uncle Billy McNeil, but I have since learned a better one: Get some burdock roots and plant them—they give splendid shade and do not

require replanting each year, and digging around them does not injure them. As to water, I keep it in shade just high enough to suit size of chicks, so that they cannot scratch dirt into it or jump in and wash their feet. I give them fresh water three times daily with a piece of iron or a few nails in it, and from one time to the other in putting fresh water in they gather some rust, which is rubbed off in the fresh water, it being a good tonic.

QUESTION FOR NEXT MONTH.

If you exhibit at the fall shows, give method of preparation, extra feeding to gain size and any other item that may occur to you.

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## REPORT OF THE POULTRY MANAGER OF THE DOMINION EXPERIMENTAL FARM, OTTAWA.

MR. A. G. GILBERT GIVES HIS ANNUAL PEN AND INK TALK.

*Concluded from last Month.*

NO. 3 HOUSE.

In this house were the following birds:

1. Pen of 9 black Minorca pullets, late hatched.
2. do 9 do do do
3. do 4 white Java do
4. do 8 Langshan do
5. do 6 white Leghorn-Brahma cross hens.
6. do 8 Indian Game cross hens.
7. do 11 white Leghorn hens,

and a number of other hens kept for sitters.

The intention was to have the crosses lay as much as possible during the winter, so as to make early spring sitters, using them as such in preference to thoroughbred stock.

The old white Leghorn hens were kept to make up a second breeding pen should it be necessary to do so in the breeding season.

It was much easier to keep the temperature in No. 3 house at a moderate degree of warmth with a base burner stove than it was in No. 1 house. In sudden drops of temperature the thermometer in the last named house would go as low as 15 and 20 below freezing, with the result that water, vegetables and droppings would all be frozen solid. On such occasions the thermometer outside registered 20 to 23 degrees below zero and was accompanied by a piercing wind. As in the case of No. 3 house, a base burner stove was used.

The rations fed to all the laying stock are given in full in another place.

The total egg yield from 1st of January, 1895, to 1st of July, of the same year, is given below. On the first day of July the male birds were removed from the breeding pens and the hens were allowed to run together in the fields in rear of the poultry houses.

EGGS LAID FROM 1ST JANUARY TO 30TH JUNE, 1895.

Seven silver laced Wyandotte pullets, 4 hens, Jan. 89, Feb. 71, March 96, April 104, May 69, June 45; total, 474.

Barred P. Rocks, 11 pullets, Jan. 80, Feb. 88, March 77, April 142, May 115, June 105; total, 607.

Barred P. Rocks, 8 hens, Jan. 42, Feb. 23, March 43, April, May and June, sitting; total, 108.

White P, Rocks, 11 hens, Jan. 80, Feb. 61, March 83, April 106, May 88, June 12; total, 430.

Langshans, 11 pullets, Jan. 83, Feb. 112, March 105, April 112, May 94, June 57; total, 563.

Langshans, 6 hens, Jan. 25, Feb. 20, March 21, April 37, May 0, June 0; total, 103.

Light Brahmas, 11 hens, Jan. 5, Feb. 23, March 54, April 72, May 38, June 27; total, 219.

Light Brahmas, 4 pullets, Jan. 0, Feb. 8, March 18, April 32, May 39, June 2; total, 99.

White Leghorns, 16 pullets, Jan. 81, Feb. 96, March 137, April 154, May 141, June 98; total, 707.

White Leghorns, 11 hens, Jan. 0, Feb. 0, March 54, April 111, May 69, June 57; total, 291.

Black Minorcas, 11 hens, Jan. 75, Feb. 51, March 44, April 82, May 94, June 65; total, 411.

Black Minorcas, 18 pullets, Jan. 18, Feb. 94, March 86, April 171, May 146, June 154; total, 669.

White Minorcas, 11 pullets, Jan. 7, Feb. 35, March 56, April 45, May 81, June 72; total, 296.

Andalusians, 11 hens, Jan. 43, Feb. 37, March 64, April 92, May 117, June 109; total, 462.

Coloured Dorkings, 11 pullets, Jan. 0, Feb. 25, March 73, April 68, May 73, June 19; total, 258.

White Wyandottes, 6 hens, Jan. 30, Feb. 23, March 21, April 46, May 33, June 13; total, 166.

Golden Polands, 9 hens, Jan. 0, Feb. 0, March 7, April 45, May 62, June 39; total, 153.

Houdans, 6 hens, Jan. 0, Feb. 16, March 25, April 50, May 26, June 12; total, 129.

White Javas, 4 pullets, Jan. 56, Feb. 64, March 76, April 71, May 83, June 55; total, 405.

Langshan Black Minorca cross, 8 hens, Jan. 31, Feb. 88, March 90, April, May, June, sitting; total, 209.

Leghorn-Brahma cross, 6 hens, Jan. 35, Feb. 48, March 30, April, May, June, sitting; total, 113.

Sundry other crosses, 24 hens, Jan. 39, Feb. 97, March 127, April 283, May 235, June 193; total, 971.

Eggs laid, hens running at large: July 456, August 438, September 246, October 23, November 160, December 943. Total for the year, 10,109.

The above figures are not given to show the best that could be done under conditions more favourable. What is meant by more favourable conditions may be explained in this way. In the number of layers given are included about 24 old hens and the mixed hens kept for sitters. As the warmer weather approached the sitters became broody and they were given eggs. At one time there were 40 hens either with chickens or sitting on eggs. Other hens would become broody and some time would elapse before they would be broken up and begin egg-laying again. Thus the number of layers was considerably reduced.

What would a farmer do, under the circumstances?

He would keep a sharp watch on his hens and kill off the non-productive ones, or else they would certainly reduce the profit made by the active layers. If he had a non-sitting breed he would have to keep a few of a sitting variety to hatch out his chickens, or, he might have a small incubator and brooder. It has been shown in a previous portion of this report how he could select his breeding stock from his largest, best shaped, and most prolific layers, mating them with a vigorous male which had been kept apart from them during the winter season.

The following will show how the breeding pens were made up and the number of eggs set and chickens hatched:

### BREEDING PENS MADE UP.

About the beginning of March, and towards the middle of the month, the different breeding pens were made up, composed of white Leghorns, black Minorcas, Andalusians, colored Dorkings, white Minorcas, barred and white Plymouth Rocks, silver laced and white Wyandottes, white Javas, light Brahmas, Langshans, and golden Polands.

The following were mated with the view of producing crosses to make good layers and market fowls:

Houdan cock, four light Brahma pullets; white Java cock, three white Leghorn hens; Wyandotte cock, seven Andalusian pullets; barred Plymouth Rock cock, three coloured Dorking hens; Indian Game cock, coloured Dorking hens, Langshan pullets, and Red Cap hens.

### EGGS SET AND CHICKENS HATCHED.

| When Set. | | Description of Eggs. | Chickens Hatched. | Remarks. |
|---|---|---|---|---|
| Mar. | 31..29 | W Java eggs | 19. | Pullets eggs |
| Apr. | 10..13 | L Brahma eggs | 6. | Old hens, rather fat |
| do | 28..26 | S L Wyandotte eggs | 14. | Eggs from farmer |
| do | 28..15 | L Brahma eggs | 7. | |
| do | 30..24 | P Rock-Dorking cross | 17. | |
| do | 30..26 | S L Wyandotte eggs | 17. | |
| do | 30..13 | W Java eggs | 12. | |
| May | 7..15 | Indian Game-Langshan cross eggs | 10. | |
| do | 7..15 | Houdan-Brahma cross | 6. | |
| do | 7..15 | S L Wyandotte-Andalusian cross eggs | 10. | |
| do | 13..26 | W Minorca eggs | 14. | |
| do | 13..26 | B Minorca eggs | 14. | |
| do | 15..26 | W Plymouth Rock eggs | 13. | |
| do | 18..13 | Andalusian eggs | 6. | Several broken |
| do | 26..26 | W Java eggs | 18. | |
| do | 25..13 | W Leghorn eggs | 8. | |
| do | 31..13 | G Poland eggs | 8. | Breeding stock old |
| | | | 199 | |

It is worth noting, while reading the above table, that the white Java eggs, which were set on the 10th of March, were from four early pullets of the year before; that these pullets laid well all winter and on being early mated their eggs, some time after, proved fairly fertile, giving 19 chicks out of two sittings of eggs. The chickens were hardy from the first and made rapid development. Indeed, the eggs from these Javas hatched remarkably well during all the season, so giving proof of sturdy and vigorous inherent qualities. The light Brahma eggs did not do well, owing to the hens being three years of age and at that age predisposed to take on fat. The Plymouth Rock-coloured Dorking cross eggs hatched well.

### PROGRESS OF THE CHICKENS.

The early hatched white Java cockerels made development of one pound per month. They were attended to and regularly fed and watered, as all chickens should be. The progress made will compare favourably with previous years. Some of the weights are given as follows:

White Java cockerels, hatched March 31st, on 14th September following weighed 6 lbs. 5 oz., 5 lbs. 7½ oz., 4 lbs. 13¾ ozs.; Plymouth Rock-Dorking cross, hatched 30th April, weighed 14th September 4 lbs. 1 oz., weighed 20th November, 6¾ lbs.; Indian Game-Langshan cross, hatched

7th May, weighed on 14th September 4 lbs. 6 ozs., weighed on 19th December 7 lbs. 8 ozs. A pair of these chickens at the latter date made 14 lbs. 13 ozs. live weight. Houdan-Brahma cross, hatched on 7th May, weighed on 14th September 4 lbs. 5¼ ozs., weighed on 20th December 6 lbs. 4 oxs.

HOW THE CHICKENS WERE CARED FOR.

On hatching out, the chickens were allowed to remain undisturbed in their nests for 24 or 30 hours, when with the mother hen they were removed to a coop on the grass outside. The mother was given food and water, and if strong enough on their legs, the chicks received a small quantity of bread crumbs, or a very small quantity of stale bread soaked in milk and squeezed dry. If the chicks did not show any inclination to eat, they were allowed to brood under the hen, or bask in the sun until strong. If the weather was too cold, the hen and chickens were placed on dry sand, in a coop or pen by themselves, in a comfortable temperature inside. The dry bread crumbs were stopped after the first day and granulated oatmeal substituted therefor. Rice boiled dry was added to the bill of fare, and on this and the oatmeal and stale bread soaked in milk and pressed dry, the chicks made rapid progress. When about a fortnight old, wheat was fed in small quantities, and a coarser and cheaper mash of cornmeal, shorts and ground oats was given in place of the bread and milk. It is a good plan to send the chicks to brood for the night with their crops full. Milk for drink was found an excellent incentive to growth. The chicks require great care until they get well on their feet, and, as remarked in previous reports, the future fowl is either made or marred in the first five weeks of its existence. To make heavy market birds, the cockerels require to be generously fed, and as they grow, cheap and nutritious rations must be fed, and in these the table and kitchen waste can enter with advantage. The same treatment must be given to pullets if they are to be early layers. Care was also taken to keep the chickens free from lice. And it is also requisite that the mother hen should be dusted regularly with insect powder in order to keep her free from these pests. Half the supposed ailments of chickens are the result of lice on the young birds. Free range, after five or six weeks, with liberal feeding, will cause rapid development. The reason why the hen should be confined to a coop (until she is ready to leave her chicks) is that the chicks in that way can be fed more frequently, and put on flesh more quickly. Whereas if she was dragging them about she would be taking off much of the flesh it is all important to get on them as quickly as possible.

WHEN PULLETS BEGAN TO LAY.

One of the white Java pullets began to lay on the 12th November, followed by two others on the 15th of the same month, and they have laid regularly since. On the 9th of December one of the Andalusian pullets laid her first egg, and she was followed a few days after by a Wyandotte-Andalusian cross pullet. A silver laced Wyandotte pullet laid her first egg 20th December.

HOW AND WHEN WINTER LAYING COMMENCED.

During the moulting season of latter part of September, October and November the hens were well cared for and given rations similar to those fed for egg production. The hens had a free run in a field in rear of the main poultry building from time of breaking up the breeding pens on the 30th of June. The male birds at that date were removed to a separate building and will there remain until put into the breeding pens next spring. As the moulting season approached, liberal rations were given, beginning with a warm mash, a grain ration at noon and a generous grain ration at evening. The result was not evident for some time, but as the new feathers appeared the hens presented a very fine appearance.

FEEDING FOR EGG PRODUCTION.

Towards the end of October, with a view to egg production the feeding of cut green bone, occasionally was commenced. During November cut bone was fed more frequently, about three times per week, and daily for noon ration at the end of the month when the fowls were shut into winter quarters. At the beginning of December, a warm mash composed of two parts ground wheat, one part ground oats and one part pea-meal was fed three mornings of the week. Cut bone was fed in small quantities every day at noon. The afternoon ration was wheat thrown into the straw and fed early enough to permit of the hens searching for it. Indeed, it is the rule whenever grain is fed to throw it into the litter on the floor of the pens, when the hens eagerly seek for it. Cabbages were hung in the pens and the fowls eat them with avidity. Grit was supplied in abundance, as also drink water.

The response to this treatment was most gratifying, the egg yield beginning in the second week of November with 6, 8, and 10 eggs which gradually increased in number until the second week in December, when they numbered 18, 22, 32, 36, and as high as 53 per diem, making a total egg yield for December of 943 eggs. The eggs laid and now being laid, are of the size usually laid by the different breeds and are of delicious flavor.

FIRST BREEDS TO RE-COMMENCE.

The first to resume laying were the white Javas, white Plymouth Rocks, silver laced Wyandottes, white Leghorns, barred Plymouth Rocks and some of the crosses. They were followed in the middle of December by the Langshans and Andalusians.

CHARACTERISTICS OF SOME CROSSES.

*Indian Game—Brahma.*—The hens of the Indian Game-Brahma cross, made in the early summer of 1894, turned out large in body and compact in shape, rather taking after the Brahma. Color of feather, light brown. They are of quiet disposition. Color of egg, light; size, medium.

*Indian Game-C. Dorking.*—The Indian Game-colored Dorking cross also made very fine hens, taking more after the first named in shape and appearance. They are compact in body, of heavy weight and tightly feathered; egg, long in shape and light in color.

*Langshan-Black Minorca.*—Both the Langshan-black Minorca and white Leghorn-Brahma crosses, made two years ago, turned out fine specimens and magnificent layers. The first named are large black fowls, some showing the Langshan type with slight feathering on the shanks, while others distinctly show the Minorca shape. Their eggs are large and of a rich brown color. The fowls of the Leghorn-Brahma cross are not so large nor are their eggs of the same size as the original breeds named.

*Plymouth Rock-colored Dorking.*—Of the crosses made this year the pullets of the Plymouth Rock-colored Dorking cross, are of the most serviceable shape and promise. They are of the long full body of the Dorking, rather loose in feather, but in every case with the barring of the Plymouth Rock, although dark in color. They have yet to show what they will be as layers, but the best anticipations seem warranted. One of the pullets laid her first egg on the 19th December.

*The Indian Game-Langshan.*—The Indian Game-Langshan pullets are all as black as crows in color. They are tight in feather, gamey in appearance and promise to make a very serviceable and handsome fowl. Few crosses give better promise.

*Houdan-Brahma.*—The pullets of the Houdan-Brahma cross are of dark feather, with the tuft of the Houdan partly developed on top of head.

*Wyandotte-Andalusian.*—The pullets of the S. L. Wyandotte-Andalusian cross are rose-combed Andalusians of the most beautiful shape and color. A silver laced Wyandotte cock was mated with several Andalusian pullets off in color, being a smoky white splashed with blue black feathers. The result is as stated, some beautiful rose-comb Andalusian pullets, one of which began to lay two weeks ago. The bodies of the pullets are larger than the Andalusian orginal, but the nervous energy of the Spanish is conspicuous. The introduction of the Wyandotte characteristics should make a layer hard to outrival.

STRAW VERSUS EARTH.

A trial has been made for two seasons of straw litter on the floors of some of the pens and of sand on others, in order to find out their relative merits. On the floors of the pens in the north wing of No. 1 house, straw was placed. On the floor of the pens in the south wing coarse dry sand, which was mixed with a small quantity of gravel. A quantity of sand and fine gravel was stored in the cellar in order to renew that on the floors, as occasion required. Results were altogether in favor of the straw for the following reasons:—

1. It covered the grain thrown into it much better than the sand, and was in consequence a much greater incentive to exercise.

2. It was much easier to handle and could be removed and renewed in much less time.

3. It was not so cold to the feet of the hens. Except on days of bright sunshine the fowls did not seem inclined to scratch in the sand.

4. On being removed from the pens every particle of *excreta* went with it. In the case of the sand it was found that on its being raked over a quantity of the droppings remained.

5. By the month of April the sand covered floors had become much mixed with the droppings, notwithstanding that the latter were removed daily from the platforms.

6. On the grain rations being thrown on the sand, the fowls are likely to pick up some of the contaminated floor material and disease to follow in consequence.

INCUBATOR TRIAL.

On the 16th May 100 eggs, principally from crosses, were put into an hot water incubator of the manufacture of M. Gagné, Quebec. The incubator was filled and run as per directions, but there was no result. On examination of some of the eggs after the twenty-third day,—two days over the regulation time—they all appeared to have been fertile. The *embryo* had apparently made satisfactory progress until the seventh or ninth day, when all progress seemed to have ceased. It should be stated that the eggs had been tested on the sixth day and the clear, or unfertile eggs removed. On several occasions the thermometers were examined and the incubator seemed to have kept the heat at the regulation

mark, fairly well. At times there was a slight fall of two or three degrees in temperature, when hot water was put into the incubator and the proper figure of 102 reached again. The temperature of the room in which the incubator was kept was not regular. The maker claims a regular temperature of 60 degrees for the proper working of the machine. An even temperature of the figure named is very hard to keep in an ordinarily constructed poultry house, which is always subject to more or less fluctuations of temperature. With artificial heat, except in the shape of hot water pipes, it is very hard to keep a regular temperature in a large poultry building.

DISEASES OF POULTRY.

The past year has been marked by the absence of the complaints of previous years, as to diseases of a fatal nature, among poultry in different parts of the country. Several cases of roup were reported and remedies asked for. In one case, the ailment which was described as diarrhœa, was traced to overfeeding. And overfeeding with too little exercise, particularly when the laying stock are in wiuter quarters, are causes of many of the ailments reported from time to time.

## SOME NOTES ON FEEDING POULTRY.

THERE can be no doubt that chickens thrive better on cooked than on raw food; hence the value of prepared biscuit meals. The reason for this is not difficult to determine. Meals when cooked are more easily digested, and the various elements contained therein are more rapidly assimilated by the stomach. It is identically the same with human beings. I do not mean to say that we could not digest grain if it were eaten in a raw state; but this would need much greater exertion on the part of our digestive organs, and the result would be harder muscle, which is unnecessary to many at least. So is it with fowls and chickens especially. Were they at liberty, and kept under conditions where they would obtain a much greater amount of exercise, and compelled to find their own food, this strength of muscle would be essential to them. But as the chief portion of what food they consume during the whole term of their natural life will be artificially supplied, it would be a waste of material to produce muscle that can never be required. At the same time we must not carry this practice to an extreme; otherwise the muscles will be unduly flabby, and fail to perform properly their various functions. While, therefore, we may make soft, i.e., cooked food the basis, a certain proportion of hard grain for chickens is beneficial to maintain the frame and organs in proper condition. These remarks do not apply to soft vegetables, roots, etc., which contain a large amount of moisture, and are soft, as they contain forms of nutriment which are lost to a considerable extent if cooked.

WHEAT—Probably more wheat has been fed to poultry during the last three or four years than was ever known before. At one time many people thought it almost a sin to give wheat to fowls, and there is a certain amount of this prejudice still existent, not only in regard to giving this grain to fowls, but to other kinds of stock. When, however, wheat fell down in value, so that it realized less, weight for weight, than Indian corn, it began to dawn upon the minds of growers that it was better to turn it into money in flesh than sell it at a ruinous price, or, as one farmer put it, he intended in future that his wheat should "walk to market." I have known people sell wheat and buy Indian corn for feeding stock, although taking the differences in weight per bushel, the latter was dearer. But this cannot continue, and so long as wheat is under 30s. per quarter (504 lbs.) it is one of the cheapest foods for poultry, containing as it does those elements which are essential to the formation of eggs and flesh. By reason of its pasty nature, however, wheat meal, or ground wheat, is unsuitable by itself for giving as soft food. It is too pasty or glutinous, and cannot be made into the crumbly mass which is the best form for feeding to hens. This can be to some extent obviated if it is coarsely ground, and mixed with about equal bulk of coarse bran or barley meal. But the form to be preferred is when given whole or simply crushed, that is, rolled, when it is equally suitable for fowls, young and old. Of course if any one will take the trouble to make the wheat meal into dough, roll it into paste about an inch thick, cut it into squares and bake hard, nothing can excell it as poultry food. These biscuits should be broken up and soaked in warm water, just as we would the ordinary biscuit meal of commerce. When wheat is to be used for poultry, there is no need to sift it, but the small grains, "tail wheat" as we call it here, will be just as good for the purpose as are the finer samples. Even if the latter are sold, the former can be utilized in the manner described.

INDIAN CORN—The use of maize increased in this country enormously during the time when wheat and otner cereals were very high in price. With wheat at 40s. a quarter, and maize little more than half as much, it is scarcely to be wondered at if stock feeders chose the cheaper. I do not think it ever was as cheap as it seemed, that is, taking results into consideration, but upon that point it is useless to enter in these days when maize is, if anything the dear-

est. We must, therefore, approach the question on other grounds.

It is generally believed by those who have studied this subject, that the use of maize has been injurious, chiefly by lining the intestines with yellow fat, which, congesting the various organs, induces disease and death. During the last four years I have delivered upwards of 700 lectures in all parts of Britain, and, knowing the extent to which Indian corn is used in rural districts, I usually speak very strongly against its use as a regular article of food for fowls, showing, however, that a proportion, not exceeding one-sixth, may be useful in very cold weather. Only once within that period have my remarks been contradicted, and this was among the Cumberland mountains, where, by reason of the altitude, rather more than the quantity named might be employed. In hundreds of instances I found that people have lost birds, without any apparent reason, but when it was mentioned that the masses of yellow fat referred to were the result of maize feeding, they at once saw that they had been to blame. The manager of a co-operative store in the north of England told me that at one time he sold two or three sacks of maize every week to poultry keepers, but as a result of a lecture in the village, he did not dispose of a sack per month. Such testimony is very satisfactory, and I should be glad if others were as ready to learn. Maize may be useful in very cold districts, and when birds are in a semi-wild state, but not under domestication.

SOFT *versus* HARD FOOD—The question is frequently asked, "Why is it better to give soft food in the morning and hard food in the evening?" and it may be helpful if the reasons for this recommendation are clearly given. Sometimes poultry keepers imagine that it does not matter when either is fed, so long as the birds receive both each day; while others think the soft food unnecessary, and give grain all the time. Now for the why and wherefore of the thing:

After the long fast of the night, we find that the crop and gizzard of a fowl are practically empty, and the bowels contain only a small quantity, that eaten the night before having been by this time largely assimilated. The system cries for more. This is hunger. If we give grain—hard grain—it has first to be softened in the crop, then ground in the gizzard, and consequently it is a long time ere the stomach has its desires satisfied; whereas if we give soft food, which needs no softening or grinding, it rapidly passes through crop and gizzard, and the stomach has its needs supplied within a very few minutes.

On the other hand, if we give soft food at night, it is quickly digested, and the birds are hungry long before meal time comes; whereas if grain is fed then, this has to go through the process already described, and more slowly, by reason of the fact that the bird is at rest. So that it has a sufficient store of food to serve it until the morning. If any of us have ever awakened during the night with an intense sense of hunger, perhaps unable to secure anything to eat, we can realize something of what is the result for fowls when fed other than as here suggested.—Stephen Beale in *Country Gentleman.*

## INJURY FROM A BAND.

*Editor Review:*

I ENCLOSE you a sample of one of the most dangerous leg bands ever offered to the public. Some time ago through an ad. in REVIEW we purchased ten black Minorcas from Mr. Henderson, Toronto, and shortly after arrival one of the best went lame. We caught her and could only see that the leg above hock joint was swollen and with watery blisters. In a few days on closer examination I found a Bicknell band imbedded in the flesh to the bone, all the cords and muscles cut clean and the hen's leg is limp and useless. This is the second case I know of. Some hens or nearly all don't care for anything on the leg, and I suppose in their efforts to get this kind of band off it slides above the joint with the above results.

Respectfully yours,

S. M. CLEMO.


**Mr. J. H. Caylord, Box 1,168, Montreal, is our Agent and Correspondent for the Province of Quebec. Any correspondence relating to subscriptions or advertising may be addressed to him.**

## NEW AND INTERESTING.

The *Reliable Poultry Journal*, published at Quincy, Ill., has undertaken the expensive and laborious task of illustrating all the standard breeds of poultry, the illustrations to be furnished by that incomparable artist, Franklane L. Sewell, and comments on all drawings to be made by the leading poultry judges and foremost breeders of America. The good work is begun in the July number, which contains a magnificent full page etching of a barred Plymouth Rock male, accompanied by the terse comments of no less than fifty-five well known judges and breeders of Plymouth Rocks. This matter will be found deeply interesting, and instructive to a high degree. The July number of the R.P.J. also contains much other interesting, valuable, up-to-date, pertinent matter. Copy of the R.P.J. will be sent cheerfully to any address on request. Drop them a postal card; they'll do the rest.

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