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# THE CANADIAN Poultry REVIEW

DEVOTED TO POULTRY, IN ALL ITS BRANCHES

PUBLISHED BY H. B. DONOVAN.

Vol. xvii.

118 VICTORIA STREET, TORONTO, JUNE, 1894.

No. 6.

## NOTES AND COMMENTS

MR. J. E. MEYER,

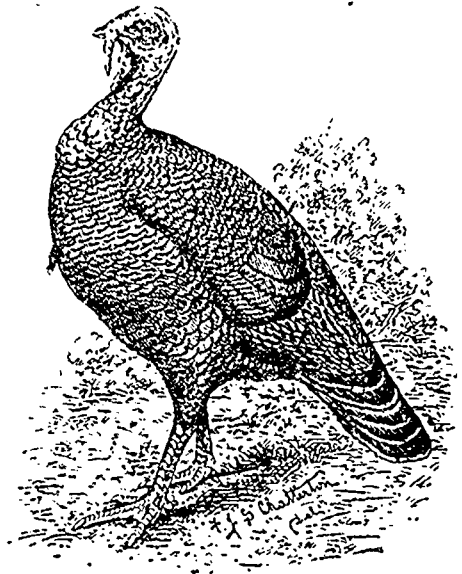
WHO, with a pertinacity worthy of emulation, sticks to his first love, the silver Wyandotte, writes :  
 "I have since New Year's invested in a first class 200 egg Monitor Incubator and planned and built brooders, etc. I have 130 silver Wyandotte chicks looking forward to fall shows and 175 fertile eggs to come out by Monday evening next. I am delighted with raising chicks in brooder and hatching in incubator. I have no more use for the fussy old hen. But you must have a good brooder. I am using a hot water machine of my own invention and it works completely."

### DOES ADVERTISING PAY?

We continue to receive many unsolicited testimonials as to the efficacy of the business columns of the REVIEW to those who are wise enough to make use of them. Mr. J. A. Peirson, of Weston, Ont., in ordering a new Standard writes : "I am extremely well satisfied with my ad. in the REVIEW for April and May, having received twenty-five orders through it alone." In these cases we are particular to give full name and address so that what we assert may be verified on application to the writers, if thought necessary.

### THE ILLUSTRATION ON THIS PAGE

represents one of the pair of bronze Turkeys shipped to Messrs. Abbot Bros., England, in May of last year by their breeder, Mr. W. J. Bell, Angus, Ont. To give an idea of the quality of this pair we cannot do better than quote a portion of Messrs. Abbot Bros. letter in *Feathered World* of 8th December last : "Our first Royal Chester mammoth bronze Turkey cock, and also



BRONZE TURKEY.

Owned by Abbott Bros., Hingham, Norfolk, England.

our first prize hen at same show, both weighed the exact weights, viz., cock 47 lbs. and hen 30¼ lbs., when sent off to the Royal Show, as can be proved by the station master here, who weighed the birds before sending them. They are both considered by the best judges to be the most typical, largest and best coloured birds ever seen in England or Ireland and probably in America also."

### TRADE IN EGGS WITH ENGLAND.

The facts disclosed in the following letters will do doubt be a surprise to many of our readers as we must admit they were to us. That fifty-two chicks should be hatched out of fifty-nine eggs,—fifty-five of which proved fertile—after travelling from Canada to England is something unprece-

dented in the annals of the fancy. The following are the letters bearing on the case :

Nafferton Hall, Nafferton, Hull, Eng., Apr. 23, '94.  
Thomas A. Duff, Esq., Toronto, Can.

My Dear Sir,—I am now able to give you such a report that I never expected. It is a pleasant surprise to myself and must be a pleasure to you. I received the 59 barred Plymouth Rock eggs on the 28th of March. Set most of them at once, all under ten really good hens. On the 21st a few came off, yesterday more, and to-day up to writing 42 live birds—only four unfertile out of the 59. Another hen set later just coming off with five or six coming out nicely. Out of the six "Champion" eggs you so kindly sent me I have four lovely chicks—one not hatched, one unfertile. I will write to-morrow giving total out and send report to all our poultry papers in England and send you a copy with report in.

It is seldom they hatch out so well, set in our own country. I may say I never received eggs packed so well and came in such good condition—not one broken.

It speaks volumes for the health of your birds. I do not think I have a single black chick amongst them. Send others at once if not sent. I am sure this will open up more business with you and myself and with other fanciers in England.

Faithfully yours,

R. BUTTERFIELD.

Nafferton, Hall, Nafferton, Hull, Eng., Apr. 23, '94.  
Thomas A. Duff, Esq., Toronto, Can.

My Dear Sir,—I am very pleased to say total hatched out 52 out of 55 fertile eggs. It is really better than my own have done. It is a clear proof that they are as safe to hatch from you as our own yards. Yours faithfully,

R. BUTTERFIELD.

#### MORE ON THE WAY.

Mr. Duff has since shipped (May 11th) two more settings and is to forward a cockerel and four pullets on Oct. 1st.

#### HARD TIMES.

The following extract from a letter from a lady reader of the REVIEW shows us what an assistance a properly managed flock of poultry may be in tiding over the present depression, so much felt by nearly all classes, and also what a help our better halves can be where so disposed. The lady writes: "If it were not for them (the fowl) we would be in a bad way. Your paper is both interesting and very helpful."

#### THE MINISTER OF AGRICULTURE

for Ontario is being freely criticised in some quarters for the appointment during the past winter of a very youthful lecturer on poultry, who, if report is true, has but little practical knowledge of the subject in which he is supposed to instruct others. It is of vital importance, especially at this stage, that none but those most fully competent to act be appointed to such an important position as lecturer to Farmers' Institutes.

#### IMPORTATION OF DORKINGS.

We had the pleasure a few days ago of seeing in the Customs House in this city a consignment of silver grey Dorkings from the famous yards of the Hon. Florence Amherst, one of the most famous exhibitors of this variety in the world. The birds—two cocks and two hens—are large with grand shaped bodies and beautiful color, and if shown, will make it hot for some of our old exhibitors. They were consigned to Mr. E. C. Ryott, who has since disposed of them to Mr. G. M. Haven, Toronto, a new and enthusiastic fancier. The four birds arrived in most excellent condition.

#### IT HAS OFTEN SURPRISED US

that this grand old breed, the English Dorking, the acme of what a table fowl should be, carrying an immense amount of breast meat with very little offal, is not more bred in Canada. It is a mistake to think them delicate at any age, for this they most certainly are not, and the prejudice here against white flesh and legs is, to use a mild term, exceedingly silly. We should be glad to see them more freely bred.

#### MESSRS. HAYCOCK & KENT, KINGSTON,

have reached the "top notch" in the way of hatching and have concluded this season's operations with five hundred chicks out and doing well.

#### REVIEWS RECEIVED.

In last issue we asked for a copy each of the REVIEW for November and December, 1891, and have since been inundated with them, for which we sincerely thank the senders. However, as we wanted but *one* copy of each to complete a file, we would be glad to return the duplicates to those who so kindly robbed their own sets for our benefit. The REVIEW must surely find favor with its readers to be so faithfully preserved for so many years back.

## "THE POULTRY ARCHITECT,"

is the name of the latest work on the subject to which the REVIEW is devoted, and is certainly a big quarter's worth. It contains plans and specifications for poultry buildings, coops, fences, nest boxes, etc., and will save its cost many times over to any one who keeps even a few hens. Mr. H. A. Kuhns, Atlanta, Ga., is the publisher, but it can be had from the REVIEW office also. We can heartily recommend it.

## THE ANNUAL REPORTS

of the Poultry and Pet Stock Associations (two) of Ontario are now ready and may be had on application to the Department of Agriculture, Toronto. A full and verbatim report of the late meeting at New Hamburg is given together with the papers there read, and also a list of prize-winners, and Mr. Butterfield's report. In the appendix appear the following articles: "Description of some Varieties," by L. G. Jarvis; "Red Caps," by F. H. Brown; "Poultry on the Farm," by L. G. Jarvis; and "Poultry Raising," by J. J. Lenton. A report of the World's Fair show by A. Bogue, together with a complete list of winners and the amount won by each exhibitor is also given. The pamphlet is freely illustrated with good full page engravings. We repeat our congratulations to all concerned.

## FROM BRITISH COLUMBIA.

At a recent meeting of the executive committee of the Vancouver Poultry and Pet Stock Association, it was resolved "that Vancouver will co-operate with Nanaimo, Portland and Tacoma in securing two desirable judges, providing the date of the show at Vancouver will be acceptable to the cities named."

## THE "DEAD BEAT" MUST GO.

There is at present a strong feeling existing amongst the publishers of the most respectable poultry journals that vigorous measures must be taken to clear the ranks of advertisers and breeders who have been proved tricky and dishonest. The *Poultry Monthly*, the *American Fancier*, the *Fanciers' Monthly* and others have not been slow in taking vigorous action, and the REVIEW will be only too happy to lend any aid in its power. That proven dead beats and swindlers are allowed to freely use the pages of the different journals is a crying shame and is one that needs, and we are certain will now receive swift remedy. In this connection the *Southern Fancier* says,

SPEAK OF A MAN AS YOU FIND HIM.

The *Fanciers' Monthly* has been excoriating L. R. Freeman of

Charlotte, Mich. so severely, and denouncing him as a "cheat," that in self defense, we feel called upon to at least praise the bridge that carries you over. The *Southern Fancier* is now carrying L. R. Freeman's "ad," for which he has paid, and as he has always been honorable and up to the mark in all his dealings with us, we have no reason to feel disgruntled. But maybe the *Monthly* has. Or, maybe Mr. F. has cause for his conduct.

Certainly we shall "speak of a man as we find him." He is a professional beat and treats those buyers who are unlucky enough to send their money to him in the same way he treats the publishers. He has owed us an advertising account for years.

## HATHAWAY BROS.,

of Unionville, Ohio, advertise in an eastern poultry publication that they have, "thirty popular varieties of fowls bred on thirty separate farms," and announce a "\$20,000 Hencoop Catalogue," whatever that may mean. We wonder if this is the same firm who for more the three years owed the *Journal* \$40 which they solemnly agreed to pay by February 1892. It is possible, but it seems scarcely probable that a firm doing so large a business would be unable to pay a just debt, which is acknowledged by them in numerous letters. We shall watch this new concern, if it is one, with considerable interest.—*American Poultry Journal*.

We know them too several dollars worth, Bro. Bates.

## MORE TO FOLLOW.

A few exposures of this kind will show these gentry that their course is run and that in the end the old saying "honesty is the best policy" still holds true. We have many such on our list and others are being investigated. The "dead beat" must go and go quickly.

## POULTRY

## TORONTO POULTRY, PIGEON, AND PET STOCK ASSOCIATION.

IN Temperance Hall, Thursday night, May 10th, the above Association held its regular monthly meeting. In the absence of the President, Mr. Jas. Brown, 1st vice-President took the chair. There was a good attendance of members, Mr. A. H. Lake, was proposed and accepted as a member. It was moved by Mr. Bennett, seconded by Mr. Wm. Fox, that a vote of thanks be tendered to Mr. Dilworth for the way in which he got the prize list of the Industrial Exhibition for 1894 through the Board meeting without any alteration, carrie

unanimously. Mr. James Brown asked the members if they could not do something in a substantial manner for Mr. Chas. Bache a brother fancier who has been ill for over six months, \$20 was collected there and then which Mr. Bennett the Treasurer paid over the next day. Moved by Mr. T. A. Duff, seconded by Mr. Dorst, that this meeting adjourn to the first Thursday in September, carried. The following were the prize winners: R.C.B. Leghorns cock, 1st, 2nd and 3rd, James Brown; Hen 1st A. H. Lake, 2nd Jas. Brown, 3rd C. Grimsley. White Leghorns, cock, 1st 2nd and 3rd Jas. Brown; hen, 1st and 3rd Jas. Brown, 2nd R. Fox. Pekin cock, 1st Chas. Benson, 2nd F. & C. Coulter 3rd E. Brown; hen, 1st F. & C. Coulter, 2nd G.S. Flambury; G.S. Hamburg hen, 1st A.H. Lake. A.O.V. Rabbit, buck, 1st W. Fox. doe, 1st Wm. Fox, 2nd Jas. Gorce. Guinea Pig, male, 1st Wm. Fox, 2nd Robt. Steele, 3rd Wm. Fox; female, 1st and 2nd Wm. Fox, 3rd Robt. Steele. Receipts of evening, \$5.

E. J. OTTER,  
Secretary.

#### IS THIS AN EGG AT ALL?

*Editor Review:*

**I** FOUND an egg in one of the nests of my white Plymouth Rock pens about the second week in April about the size of an ordinary Bantam egg. It was laid aside until a few days ago when I opened it to see what it contained; to my surprise it was full of fluid of the same nature as the white of any egg but it was blood and for a yoke was a lump resembling the heart of a robin or some small bird; it was covered with tissue and resembled a heart. I opened it and found it to contain clotted blood just like liver. Now in mating the above pen I remember two of the females having a vicious fight after which one seemed disabled across the back, her legs seemed to get shorter, her body come closer to the ground and the tail spreading out and in every way resembling a large white duck, except the head. Since opening this little egg I remember about the time I found it this hen began to straighten up and get more lively and is now herself again. Now it appears to me she is the hen that laid the egg in question. It would seem that the clotted blood had lodged in or near some vital place causing the deformity and gradually shifted around until it got into the egg chamber and nature thought the best way to dispose of it was to encase it in a shell; what do you think? I would like to hear if any of the readers of your valuable journal have ever seen or heard of such a thing.

Fraternally yours,

S. M. CLEMO.

Galt.

[We should like the opinion of our old friend "Science" who by the way of late has quite deserted the REVIEW) in this. Mr. Clemo's idea seems feasible. ED.]

#### THE BEST FOWL FOR THE FANCIER.

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

**T**HE beginner in the poultry fancy usually is troubled by the question, "What is the best fowl for me to take up?" He usually answers the question amiss and tries one variety and breed after another until he has a very variegated if not satisfactory experience and eventually settles down to one or a few breeds and varieties. Perhaps a few suggestions may help such persons, though they may be as useless as the suggestions made to a son concerning the woman whom he should marry.

The first question a beginner should ask is, "What do I wish to produce?" Upon the answer to that question will depend what fowl he should keep. If he wishes to produce table fowls, laying fowls, or general purpose fowls, amid one he must choose, for into these three classes all fowls will be found to fall, he can by his answer to this one question greatly limit the choice he is to make. Suppose prolific laying is the great quality he is after. This will at once exclude all table and general purpose fowls, and his choice will be limited to the Mediterranean, Polish and Hamburg classes. Among these only need he select.

The next question to ask is "What are the conditions under which the fowls are to be kept?" Suppose he lives in a very cold climate where single-combs can be preserved intact only by great care and suppose he feels that he can not give the necessary care, he will then exclude the single-combed fowls and find that he is restricted to rose-combed or crested fowls.

These two questions come very near to settling the whole matter for him, for between rose-combed and crested fowls personal choice will come in so strongly that one or the other will be unhesitatingly selected. And the variety to be selected, according to color and markings, can be left very much to personal preference.

But another phase of the question arises, and this I had in view when beginning this article; in answer to the question "Shall I select a popular or unpopular breed or variety?" The majority will probably answer promptly a popular variety. But I do not think it makes so very much difference and I am not sure that the unpopular variety will not prove the more profitable to the beginner. If a popular variety is selected one immediately comes into competition with a large number of experienced breeders and though the market is large the sellers are numerous, so that trade for an individual seller may not be much if any greater than when

an unpopular variety is selected. If an unpopular variety is selected the market is limited but the sellers are also limited. The competition is less felt for the sellers are farther apart. In exhibiting one will meet fewer competitors and thus have a greater certainty of winning prizes, and winning prizes is one means of gaining a reputation as a successful breeder. So it will be seen that it does not really matter so much after all whether one selects a popular or unpopular variety.

But another question needs to be asked. "Has the variety real practical merit?" If it has not it is not so good. I have learned through experience that the varieties which can be honestly termed "bread-winners," varieties which pay when one is obliged to sell the chickens and eggs at current prices, are really the safest varieties for the fancier one year with another. They do not always bring the highest prices for individual specimens, but they will bring a higher average price than can be obtained from fowls whose chief end of existence is beauty. There is a demand for them at moderate prices—prices that are remunerative,—when the others can scarcely be sold at all. And should the demand as fancy fowls fail altogether, of which there is no special danger, the practical fowls will still continue to be profitable to keep.

And one more question should be asked, "Does the fowl antagonize or harmonize with local prejudices?" A person cannot afford to attempt missionary work in overcoming local prejudice. If one's market demands brown eggs it is not advisable, other things equal, to produce white eggs; and if yellow legs and skin are preferred it does not pay, other things equal, to breed fowls with black or blue legs and a white skin. Fall in with local prejudices to this extent that you furnish what the market requires. You need not say that the prejudices are right or reasonable, you may think them the most foolish whims, but you should take advantage of these whims to make a greater profit for yourself. Other things, however, are not always equal, and one sometimes has to place himself in antagonism to local prejudice in order to secure other advantages. Then it is a question of balancing advantages and disadvantages and choosing the fowl, which under all considerations will pay the best.

Having once made a choice, stick to it at least for a reasonable length of time, until experience proves conclusively that you can better yourself by changing. There is a decided advantage in being known as an old breeder of any variety. Long experience with any variety gives one a prestige that is worth a great deal and such experience can not be had by inconstancy of mind. If you suspect you

have made a mistake try another variety in a small way, still keeping the original choice and let the latter gradually work into the place you hoped the former to occupy. By so doing you will have built up something of a trade in the second before you relinquish that you have had in the first. This is certainly an excellent way, to change varieties and does not cause the idea of instability that the taking up of a new and dropping of an old breed suddenly, is sure to do.

### BLACK SPANISH FOWLS.

By J. C. BOWES, THORNTON DALE, YORKS.

#### THE COCK BIRD.

FROM *Fanciers Gazette*, LONDON.

IN attempting to answer the question—What conditions must be satisfied in order that a black Spanish cock may at least approach perfection?—it will be convenient to discuss separately the elements which go to make up the complete bird.

The comb should be large. Giving a definite notion of size, derived from actual measurement of one of the most typically perfect birds I have seen, its length, measured from the nostrils to the extreme point overhanging the hackle, should be about five inches; its height, from the base to the top of the highest spike, about three inches.

It should be firm, perfectly erect, finely arched, *broad at the base*, gradually tapering in breadth towards the top of the serrations. The under edge overhanging the hackle feathers should follow closely the contour of the neck, and not form a large angle with it. The slightest twist or tendency to overhang is a cardinal defect. A twist is most frequently seen in the front part of the comb near the beak.

As a remedy for this, it is, I believe, customary to stitch a flat piece of cork or cardboard tight up to that side of the comb where the twist is found. Various expedients are restored to for the purpose of supporting a weak and drooping comb, the most common of them consists in fixing—by means of a hole pierced through the solid horny substance between the nostrils on both sides of the comb—a strong wire, bent so as to accommodate itself to the arched form of the upper edge, and resting on the top of the head.

But if the weakness of the comb be congenital, and not as frequently happens, the result of poor condition and low vitality—such, for instance, as accompanies the moult—then all such artificial means are but temporary in their good effects, and are by no means to be advocated. In short, a



weak, overhanging comb, should mean summary rejection of a cock, alike for stud purposes and for the show-pen.

How many, inexperienced and hasty purchasers—nay, how many judges—have discovered, to their intense mortification, that a bird which was one day apparently without any grave blemish, had but a few short hours afterwards a flabby, overhanging comb!

Parenthetically, here let me express the strong opinion that judges at shows should, before pronouncing a decision, be allowed ample time for taking each individual bird out of its pen in order to see whether it bears any tell-tale marks or holes in comb or nostril.

The head, bearing the large, broad-based comb, must be large and deep, with a beak fairly long and stout, of a dark horn color.

The neck, of a good length, should be carried high and well back. The wattles should be very long, of fine texture, and of a brilliant red-color, except in the inner part near the throat, which, like the face, is white.

The face—in ordinary fowls the unfeathered skin round the eye—has in the modern Spanish cock received an extraordinary development, and in good specimens will measure from 6 in. to  $7\frac{1}{2}$  in. In shape it should begin at the beak, extending well back behind the ear; and at the top should only be separated from the base of the comb by a narrow arched fringe of feathers. On each side of the neck it should terminate with a broad, graceful curve, lying well back and flat, not falling in lump, pointed folds. The two side lobes of the face are connected by a broad front—the “bib.” The broader this bib is the better. Breadth of bib tends to push the sides of the face back and make them fall flat on the neck, and this naturally has the effect of increasing the expanse of face.

The face should be free from folds and coarseness. Its quality and color must be that of the finest white kid glove. Were I asked: What is the chief desideratum in a good face? I should unhesitatingly answer “Fineness of quality, even at the expense of quantity, and my opinion would coincide with that of the majority of modern judges.

Quite apart from any consideration of beauty, expediency would seem to demand elimination of coarseness, for all Spanish fanciers are woefully familiar with the fact that in birds of coarse quality the “cauliflower” like ruggedness of the face is apt to grow over the eye in such a manner as to effectually impede the eyesight; and, moreover, I have inevitably found that a coarse quality bird is much more troublesome to keep in good condition than one of finer quality.

The above-mentioned obstruction of sight is caused in

two ways—by the white *under* the eye growing up and hindering the lid from opening, or by the wrinkled white *above* the eye growing down. In the first case the white may be cut away without greatly disfiguring the face, but in the second other means must be adopted. A piece of thread may be passed through the white immediately above each eye, and fastened near the back of the comb close to the head. This will have the effect of lifting the white off the eye.

But the breeder for showing purposes will, with advantage to himself, part company with birds of this description.

Another fatal defect is the appearance of pink on any part of the face. This is frequently seen just above the eye.

The ear lobes should be free from folds or wrinkles.

As I have said in a former paper, the body should be broad at the chest, and carried well forward; legs and thighs long and slender, with clean hocks; legs and feet of a dark leaden or almost black color; wings large and tight to the body; hackles long.

Some cocks have what is called a “squirrel tail”—that is, a tail falling too far forward, with a tendency to touch the back of the neck. This defect will considerably lessen the chances of a bird in the show-pen.

Several points relating to the face, comb, etc., are necessarily reserved for my article on preparing birds for the show-pen.

#### CRUELTY TO OSTRICHES.

**M**ANY wearers of Ostrich feathers suppose themselves free from the charge of encouraging cruelty so justly brought against the women who wear bird plumage. Let such read and ponder well the following account of the annual plucking on a great Ostrich farm near Cairo:

“The first year a bird is plucked he can be easily caught and thrown by one man. The feathers are then wrenched bleeding from his tortured body, after which the marabout and down are torn off.

After one experience the birds can only be caught with the utmost difficulty, and it takes six or eight men to throw an old bird. ‘It is very hard plucking,’ we are told, ‘the feathers are bedded so tight in the flesh.’ I asked if it would not do as well to clip the feathers close, and was told that the dealers will only buy those with the perfect quill. All the undressed feathers offered for sale on the farm had blood on the quills, and we were told that when the annual plucking takes place the shrieks of the birds can be heard to a great distance in the still desert air.”—Our Dumb Animals.

## WILD TURKEYS.

TRANSLATED FOR REVIEW BY MR. A. DELAPORTE, TORONTO.

*From Le Moniteur des Campagnes Illustre, St. Quentin, France.*

**W**ILD Turkeys seem to have existed almost for all geological periods in North America. People have discovered their skeletons in the ground alluded to as far back as the miocene period in Colorado, and to the post miocene period in New Jersey. The skeletons indicated the subjects sometimes larger, sometimes smaller than they are to-day. For a long while people have believed that only one kind of wild Turkey exists in the United States, in reality there are four kinds or under species, that are the product of a Turkey originally from Central America, of which the brilliant plumage can vie with that of the colibris. The variety most scattered is the *Meleagris gallopavo* (Linne), this species inhabits the eastern parts of the United States, the western plains of Canada, the north of Florida. The skin of the head is bare, the neck blue, the plumage of the neck and body bronze with green and purple reflections, and a black edge. The breast and the loins are black with reflection, the sides and above from the tail a brown chestnut color, with some places lighter, the beak and the feet are red. The second species inhabits exclusively Florida, principally south of the peninsula, it is the *Melagris gallopavo osceola*. It differs from the preceding by its plumage which is striped and spotted, with white, and with brown, it is grayish. *Le Meleagris gallopavo Ellioti* constitutes the third species, it lives in the lower lands, south from Texas, and east from Mexico. It is distinguished from the other Turkeys by a tail tuft, the color of ocre, and by its plumage which in the upper and lower parts is of the same ocre color, and which in the breast it is lacking of the brilliant metallic reflection of the other species. *Ellioti* seem to be the largest of the three kinds they may weight up to 20 lbs. The last is the Mexican Turkey. It inhabits the Rocky mountains from western Texas as far as Arizona and the plateau of Mexico, to a height of 3,000 feet. It is recognized by the white feathers of the tail, its general plumage is copper colored, with green and black reflections. This bird is above all a bird of high lands. People meet with it rarely at less than 3,000 feet above the level of the sea, it is often found about 10,000 feet altitude, it lives in bands of 30 to 40 individuals. It is hunted at night or early morning, people hunting it use the rifle, because it perches on very high trees.

## DOMINION EXPERIMENTAL FARM.

EXTRACTS FROM THE REPORT OF THE POULTRY  
MANAGER MR. A. G. GILBERT.

(Continued.)

**T**HE winter of 1891-92 will be remembered for its severity. In the poultry buildings of the farm the cold was felt as it was almost everywhere else. The lowest temperature was noted in No. 1, or the house wherein the layers were kept, when the temperature went down to 20° below freezing on the night of the 24th December, and it remained so for twelve or fourteen hours afterwards. Outside the thermometer registered 28° below zero, accompanied by a strong and piercing wind from the northwest. In previous reports it has been stated that where the laying stock is kept in cold houses, the food instead of going into eggs is drawn upon to furnish animal heat, and it has been urged upon the farmers to keep their fowls in as comfortable quarters as possible, in order to obtain eggs. Attention is also given to the subject in this report for it is one deserving consideration. It will be interesting then to note the eggs laid by the different breeds under the circumstances as noted. It will be seen that some of the breeds said to be the best winter layers and hardiest of fowls did not prove themselves so. The breeds which did best during the cold season were the Plymouth Rocks, black Minorcas, Andalusians, Red caps and white Leghorns, as follows:—

## PLYMOUTH ROCKS.

There were eleven hens and nine pullets. Of this number seven pullets were separated and reserved for breeding stock. The remainder laid 211 eggs. During January 97, February 53 and March 59. Some of the hens were two years of age and the pullets late.

## BLACK MINORCAS.

Of this breed there were four hens and thirteen pullets. The hens and five of the pullets were kept as breeders. The remaining eight pullets laid 213 eggs. In January 89, February 50 and March 74.

## ANDALUSIANS.

There were eleven hens and seven pullets of which number five of the hens were used as breeders. The remainder laid during the three first months of the year 182 eggs, viz., January 71, February 72, March 39.

## RED CAPS.

There were five hens and six pullets of this breed, three hens and two pullets being reserved as breeders. The re-

mander laid 165 eggs as follows. January 55, February 69, March 39.

#### WHITE LEGHORNS.

Of this breed there were seventeen hens and twelve pullets. The most of the hens were old and were kept for breeding from. Seven of the pullets were put into the breeding pen in No. 2 house. The remainder laid 157 eggs, viz., January 32, February 73, March 51.

#### WYANDOTTES.

Nine hens and six pullets, five pullets being reserved as breeders. The remainder laid 79 eggs, January 25, February 31, March 23.

#### LIGHT BRAHMAS.

There were six hens and sixteen pullets of this breed. They were all in one pen and were rather crowded. The pullets were of late hatch. The hens did nothing, the pullets seemed at a standstill during the cold season, and did not begin to lay until the change of season in the beginning of April. The lesson to be learned from the foregoing is that pullets of this breed must be hatched early, so as to have every opportunity to mature before the winter season begins, and they must not be crowded. This has been remarked in previous reports.

#### LANGSHANS.

There were three hens and eight pullets of this breed. The pullets were late of hatch as in the case of the Brahmas and the same remarks made *re* last named, apply to the former, as their characteristics are about the same. The three hens laid 65 eggs, viz., January 10, February 25, March 27. Several of the pullets were sickly during the early part of the winter and a good deal of trouble was experienced in getting them on their feet and they were never robust. Fine specimens of this breed have been reared this season from superior stock and good results are hoped for, as the breed is a good one.

#### HOUDANS.

There were eleven old hens of this breed kept for breeding stock and such being the case it would be hardly fair to expect an egg record. These hens did not begin to lay until April.

#### WHITE LEGHORN-BRAHMA CROSS.

There were six pullets of this cross and one of white Leghorn-Plymouth Rock cross. They were of different ages, some being late. Three pullets laid 75 eggs during the first three months of the year, viz., 42 during January; 30 in February and three in March. A number of eggs were eaten during the last named month. In April when the fowls got out, the egg eating ceased and the seven pullets

laid 133 eggs during the month. In April the seven pullets laid seven eggs *per diem* 5 times; six eggs *per diem* 10 times; 5 eggs 5 times and the remainder at the rate of 4, 3 and 2 per day. This is excellent laying even for that time of year.

#### MIXED OR COMMON FOWLS.

There were twenty-nine fowls of all ages and sizes. They were of no particular breed and were kept for sitters only. They were fairly representative of the barn yard fowl of the ordinary farm yard. These fowls were placed in two pens in a cold part of the building but no colder than the fowl house so common in the country. They were fed the same rations as the Plymouth Rocks, Minorcas and Red Caps but they laid few eggs until the month of April when they laid 312 eggs. The record is 32 eggs for January, 37 for February and 18 for March. In April eggs were down to 15 and 17 cents per dozen so that they began to lay when eggs were cheap. It may be said that the mixed fowls were no worse than the Brahma thoroughbreds. But in the case of the latter breed the explanation is given that the pullets were of too late hatch and when they did begin to lay their eggs were worth one dollar per setting to the farm as thoroughbred eggs sold for hatching from.

The total number of eggs laid during the eight months of the year was 6,228. Of this number the months show as follows: January, 424; February, 442; March, 384; April, 1,278; May, 1,563; June, 758; July, 788; August, 581. It will be seen that more than half the total number of eggs were laid—most of them by the pure bred fowls—during the months of April, May and June when they were readily purchased at one dollar per setting for hatching.

#### THE EXPERIENCE GAINED.

The experience of last and previous winters confirms what has been written in previous reports, viz.:

1. Pullets should be hatched out as early as possible.
2. The laying stock should be young and birds of the same age should be in the one pen.
3. A warm or comfortable house is more economical in the long run than a cold one.
4. What will go into eggs in the pullets will make the hens of the heavy breeds too fat to lay.
5. The laying stock require ample room. See instructions on a previous page.

#### BREEDING PENS MADE UP.

After a very cold winter the weather moderated about the beginning of March, and the breeding pens were made up as follows:—

Breed.	When mated.	No. in Pen.
Brahmas	March 3	1 cockerel, 9 hens
Plymouth Rocks	do 3	1 cock, 11 hens

brahmas (2nd pen)	do	3	1	do	11	pullets
White Leghorns	do	27	1	do	9	do
do (2nd pen)	do	25	1	do	1	cockerel, 7 hens
<i>Crosses.</i>						
Langshan-Black Minorca	do	30	1	do	5	do
White Leghorn-Brahma	April	2	1	do	5	do

As in previous years the demand for eggs for hatching was much greater than could be filled, and many disappointments were the result, but the orders were taken in rotation, and as far as possible farmers had first choice.

necessity of the assistance of a good incubator. It is an every year experience. When sitters become numerous the season is too far advanced to permit of early chickens being hatched out so as to obtain pullets that will lay while the hens are moulting, or early hatched cockerels to make early market chickens. The probabilities are that the time is not far distant when artificial incubation will be well understood and generally practised. The first hen to become broody was a Plymouth Rock, and she was given eleven black Minorca eggs on the 8th April. The hens were all "set" on board floors covered with two to three inches of sand and earth. Description of the nests used, and the method of setting the hens have been fully described in previous reports. Drink, food and a dust bath were in close proximity to the sitters at all times.

PROGRESS OF THE CHICKS.

The chicks made good progress, considering that the ground has been used for the same purpose for the four previous years. It is the intention to give the newly hatched chickens entirely new ground next spring, a large space having been fenced in for that purpose. After hatching, the chickens were allowed to remain in the nest until thoroughly strong on their legs. Their first food was stale bread soaked in milk and squeezed dry, varied by stale bread crumbs. In a day or two granulated oatmeal was added, then crushed corn and after twelve or fifteen days whole wheat. A splendid mash for the rapidly growing youngsters was found to be shorts, cornmeal, bran, bone meal, and bread and table scraps from the houses of the farm, the whole being mixed up with boiling milk or water. Where milk is in abundant supply it will be found one of the best foods for the growing chicks or the laying hens. Some figures showing the weights made by chickens of certain breeds have been given in a preceding page, but the following may be stated without repetition :--

The most rapid growth was made by a white Plymouth Rock, which hatched on the 20th May, weighed on the 21st October following 6 lbs.; representing a development of 19 oz. per month. This gain may not represent that made in the first month after hatching, but it was subsequently made up.

The next best growth was made by a cross of the Langshan—black Minorca breeds, the Langshan male being used. This cockerel was hatched on the 11th May, and weighed on the 21st October, 5 lbs. 15 oz. The barred Plymouth Rocks came next, closely followed by the Wyandottes, both white and silver laced. In some cases the weights were the same.

The white and silver laced Wyandottes made about the

EGGS SET AND CHICKENS HATCHED.

When set.	Description of Eggs.	Number of Chicks hatched.	When hatched.	Remarks.
April 8	11 Black Minorcas	7	April 29.	From Toronto.
do 19	8 Red Caps, 3 crosses	7	May 11.	
do 21	11 Langshans	7	do 13.	From F. A. Mortimer, Pottsville, U.S.
do 24	13 Plymouth Rocks	7	do 17.	
do 29	13 White Plymouth Rocks	12	do 20.	From Allan's Corners, Q.
do 29	13 S. L. Wyandottes	6	do 20.	do Todmorden, Ont.
do 29	13 do	6	do 20.	do do
May 2	8 W. P. Rocks, 5 Langshans	10	do 23.	do Toronto.
do 3	13 Red Caps	8	do 24.	do do
do 4	13 Colored Dorkings	6	do 25.	do London, Ont.
do 9	13 White Plymouth Rocks	12	do 30.	do Toronto.
do 9	13 Langshans	6	do 30.	
do 11	13 White Wyandottes	10	June 1.	do Kingston.
do 13	13 Black Minorcas	7	do 3.	do Toronto.
do 17	13 White Wyandottes	10	do 6.	do Ottawa.
do 18	8 G. Polands, 5 P. Rocks	12	do 8.	
do 22	13 White Wyandottes	6	do 12.	
do 27	13 Red Caps and Plymouth Rocks	9	do 17.	
do 27	9 Plymouth Rocks, 4 G. Polands	9	do 17.	
do 29	13 R. Plymouth Rocks	7	do 19.	
do 30	13 Houdans	12	do 20.	
do 30	13 Langshans—Black Minorcas, cross	12	do 30.	
do 30	Sundry eggs	9	do 30.	do Kingston.

SITTERS SCARCE.

The difficulty in obtaining early sitters clearly proved the

same progress. Both represent a development of 1 lb. per month, taking the heaviest weights. On new ground the figure named should be fairly representative for all cockerels. With special feeding the cockerels might be pushed to a heavier weight. The same may be said of all the breeds mentioned.

The chicks were fed a little and often for the first four or five weeks, and as their size increased and their rations became more solid, they were fed four times daily. Care was taken that the evening ration of grain was a generous one, the object being to keep their crops as full as possible, and for as long as possible during the night. The necessity of pushing their chickens to early maturity has been urged on the farmers in previous reports.

#### DISEASES OF POULTRY.

Numerous inquiries were received during the year from different parts of the country as to diseases affecting poultry. Satisfactory information was given in almost every case.

On the 7th July last a letter was received from Mr. Hector Chauvin of Montebello, P.Q., stating "that a disease (similar to that of cholera) had shown itself among his chickens. Since the previous Sunday he had lost thirty and he noticed many others which were sickly looking. He feared for the remaining 260."

As the distance was not great and it was known that Mr. Chauvin had valuable chickens, a visit was paid to that gentleman's poultry yard. The disease was found to be a slight diarrhœa caused by acute indigestion, the result of a little overcrowding and too close confinement. It had already been checked by the timely and judicious remedies given by Mr. Chauvin, who is thoroughly up in poultry matters. It was advised that his chickens be allowed free run outside.

Mr. Chauvin has a large and well constructed poultry house, fitted up according to the most approved methods and furnished with all the latest machinery, conveniences etc. It is doubtful if there is a more completely furnished poultry establishment in the Dominion. Mr. Chauvin sold all the eggs laid by his hens last winter, in Montreal, at 40 cents per dozen.

#### SUSPECTED TUBERCULOSIS.

The following may be of service to others. On the 21st Nov. ult. Mr. M. Cowley, of Bristol Corners, P.Q., wrote under date of the day previous :

"SIR,—My hens have taken a disease this fall that proves fatal in a month or six weeks time. They first take lazar in one leg, then their comb wilts away. They hobble round

for a few weeks and die. I opened four of them and found that all their livers were diseased. The livers looked as if they had been covered with hay seed and some were ulcerated. It seems to be more prevalent with my brown Leghorn hens. None of the cock birds have it yet, nor have this year's chickens. The sick ones are mostly last year's birds. My hens have the same run as any farm yard fowls. The disease seems to be general round here. I would be glad if you could let me know what to do."

As the disease seemed to affect several localities Mr. Cowley's letter was forwarded to Prof. Wesley Mills, of McGill University, Montreal, and the following reply was received :—

MCGILL UNIVERSITY,

MONTREAL, 28th November, 1893.

DEAR SIR,—I am in receipt of your letter of 23rd instant. From the account of the disease given by Mr. Cowley, I should suspect some germ disease, possibly tuberculosis. If you will forward one of the birds to my address as above, as soon after death as possible, I will ask our professor of pathology to kindly make a careful examination.

In any case I would recommend isolation of sick birds and disinfection of the houses in which the fowls have been kept, with a special care to comfort and feeding.

Faithfully yours,

WESLEY MILLS, M.D

In accordance with the above Mr. Cowley was requested to send the fowl to the address as requested. On the 18th December, Mr. Cowley drove in from Bristol's Corners with a fowl which had died of the disease and the subject was at once forwarded to Dr. Mills. The result of the examination will be awaited with interest.

#### BEGINNING OF WINTER LAYING.

After enjoying a free run outside, the fowls went into winter quarters during the third week in November. The hens were in most cases over their moult, but some were still very ragged. The white Leghorns were the first to lay followed by the light Brahmas. Up to date none of the pullets had laid.

#### THE POULTRY SHOW AT THE INDUSTRIAL.

During the Industrial Exhibition at Toronto, in September last, the meeting of the Ontario Poultry Association held on the 15th of the month named was attended and upon the invitation of the president an address was delivered on "the value of poultry as a means of revenue to the country and to the farmer." The exhibition of poultry, held in the

enlarged and improved poultry building of the Exhibition Association, was the best fall show ever seen on the continent at the time of year. The management, arrangement and judging of the birds were simply magnificent.

**INCREASED INTEREST IN POULTRY.**

Apart from the numerous excursion parties which visited the Experimental Farm during the early part of the season, the increase in the number of farmer visitors to the poultry department and in the interest taken in the same were most gratifying. A largely increased correspondence and demand for plans of buildings; reports containing details as to management of poultry, etc., indicate a more general appreciation of the value of the poultry department as a means of making money.

**IMPROVEMENTS.**

During the past summer season a large piece of land adjoining the poultry building has been fenced in as part of the department, and will afford change of ground for the young chicks next season. The cedar posts in front of the main poultry building and in the runs to the rear have been removed and replaced by a light iron posts and wire netting, the whole presenting a very handsome appearance. In the outside runs in rear of the buildings one and three and to the side of No. 2, grass sods have been laid for one-half the runs and the other portions have been boxed off and filled with sand in one part and gravel in the other.

**EARTH VERSUS STRAW COVERED FLOORS.**

In No. 1, on main building which contains the laying stock, the floors of the five pens in the south wing have been covered with sand to the depth of three or four inches. A quantity of fine gravel has been mixed with the sand. In the north wing the floors of the five pens are left covered with the straw and chaff heretofore used. The object is to find out the merits of the earth *versus* the straw covered floor. It is presumed the conditions will be more natural, in so far, that better opportunity will be afforded the layers to dust, scratch in, pick up grit, etc., etc., and that while egg laying will be increased, the vices of egg and feather eating will be prevented.

**PULLETS OF DIFFERENT BREEDS ON TRIAL.**

A pen of barred and another of white Plymouth Rock pullets and a pen each of white and silver laced Wyandottes are side by side in the south wing of No. 1 house. Note will be taken as to any points of superiority between these different varieties. Trial is also being made of a pen of pullets of the Langshan-black Minorca cross and other

pullets of the white Leghorn-Brahma cross, all of which promise to make good winter layers.

I have the honour to be, sir,  
Your obedient servant,  
**A. G. GILBERT,**  
*Manager Poultry Department.*

Central Experimental Farm,  
Ottawa, 5th December, 1893.

**POULTRY ASSOCIATION OF ONTARIO.**

STATEMENT OF RECEIPTS AND DISBURSEMENTS OF  
THE POULTRY ASSOCIATION OF ONTARIO  
FOR EXHIBITION OF 1894.

*Receipts.*

Balance brought forward.....	\$ 61 19
Entry fees as per register.....	594 50
Special cash prizes donated.....	62 00
Member's fees.....	105 00
Government Grant, (discounted)....	868 50
Interest from bank.....	5 31
	\$ 1696 50

*Disbursements.*

Secretary's expenses :	
Postage.....	\$ 15 50
Express, Telegrams, and commission checks and P. O. orders .....	4 68
A. Talbot & Co. ac., Printing .....	18 00
Reid Bros & Co, ac., Entry books.....	4 25
Advertiser Publishing Co., ac. Printing.....	29 65
Secretary's expenses at New Hamburg and fare..	5 45
H. B. Varley, stenographer.....	13 45
H. B. Donovan, advertising.....	10 00
Bleton Pub. Co., ac., of 1893 omitted. ....	6 50
R. Hamill, ac., of 1889. ....	10 30
Prizes paid.....	1059 50
Judges fees.....	125 00
Secretary's salary.....	100 00
New Hamburg Society Grant for expenses.....	160 00
Balance....	134 22
	\$ 1696 50

Audited and found correct, May 22nd, 94.

H. B. DONOVAN, }  
THOS. A. DUFF, } Auditors.

## THE DIET OF DOMESTIC CREATURES.

BY PROF. WOODROFFE HILL, F.R.C.V.S.

THERE are people who think that a domesticated creature can adapt itself to any kind of food without any evil results, but this is the blunder of a not sufficiently trained or thoughtful mind. The production of maladies not previously prevalent may be often traced to an artificial—*i.e.*, unnatural—system of feeding. A bad, injudicious, and forced diet contributes its share in the production of disease, especially of a visceral nature. This is particularly noticed in *crammed* Poultry and *cayenne fed* Canaries. The injurious effects arising from improper nutrition are not sufficiently recognized, if they were, most of the so-called cheap foods placed on the market would be promptly tabooed. Impairment of nutrition creates a suitable and fruitful ground for the development of disease.

A *never varied* diet is a *wrong* diet. The selection of the most natural and health promoting materials should be the aim of the feeder. Notwithstanding the keen competition in canine and ovine food manufacture, Kennel and Poultry men are now awaking to the importance of using the best and most suitable article. "Dietaries ought never to be estimated by the rough weight of the constituents without distinct reference to the real nutriment in these as determined by physiological and chemical inquiry." The effects of food on the animal economy is, therefore, a subject of great importance, whether it be applied to man, animals, or birds. According to Letheby, the various alimentary substances made use of by man and animals contain at least four classes of constituents, each of which, he says, performs its own assigned function in the living animal economy. If the substance contains nitrogen it seems most fitted for the nourishment of tissue, and has been called plastic or nitrogenous; if it is deficient in nitrogen, and has an excess of carbon or hydrogen, it appears to undergo combustion in the body, and is called a non nitrogenous or a respiratory element of food (hydro carbons), if it is fatty in its nature it performs the double duty of maintaining animal warmth and of assisting in the assimilation of nitrogenous compounds, and lastly, if it is saline in its quality it goes to build up the solid textures of the animal frame, and aids the important work of carrying new materials into the system and old or effete matter out of it. Health, we are taught, cannot be maintained if the food of man, animals, and Poultry does not contain these several constituents.

Regularity and naturalness are most important points in connection with dietetics.

No doubt exists in my mind as a professional man that the peculiarly artificial state in which domesticated creatures, notably dogs, Poultry, and various other birds are now kept has very much to do with the development and aggravation of disease and the shortening of life.

Irritant, indigestible, and imperfectly prepared food should be avoided. Retarded digestion gives rise to flatulence and dyspepsia. Post-mortem examinations frequently reveal decomposition of long-retained food in the stomach, which may be due to an abnormal condition of the latter, but more often to the nature of the diet, and the incapability of the stomach to digest it. It should be remembered that whole grain is the most natural Poultry food, as is flesh that of carnivorous animals, and that a continual pultaceous diet does not sufficiently exercise the functions of the digestive apparatus and stimulate the gastric secretion. If, therefore, the dietary circumstances under which disease is encouraged be taken into consideration, and well directed hygienic measures be more fully pursued, better health to the domestic creatures will follow, and pecuniary advantage must accrue to the owner. I cannot conclude this article without allusion to what I must designate a peculiar stretch of imagination on the part of Mr. Cook in his extraordinary remarks concerning rice. In specifying the peculiar characteristics of a food agent, accuracy is most essential. It is one thing to assert, another to prove. It must be a marvellously rotten cloth that swollen rice would burst, and a singularly abnormal crop that it would rupture. To accomplish such a result, it would be necessary that *excessive* fermentation and generation of gas should be established, whereas it is a well known chemical fact, that owing to the small quantity of gluten which rice contains, it is capable by itself of only an *imperfect* fermentation, and for this reason cannot be made into bread unless mixed with wheaten flour. Rice is nevertheless a peculiarly valuable food, not only for the human family, but for Poultry, especially in hot seasons, whilst it is also a valuable diet in relaxed bowel complaints. Rice is not tied loosely in a cloth for culinary purposes to prevent it when cooked bursting the enclosure, but to allow the necessary expansion of the grain. There are grades of quality in rice as in other dietary articles, and I have only once more to assert the *best* is the *cheapest*, whether given dry or boiled, and too much of it as of any other good thing *can* be given; but the crop of a chicken does not retain water long enough to swell the dry rice and give rise to the extraordinary effect assumed by Mr. Cook, for an assumption it most assuredly is.—*Poultry*.

## TUBERCULOSIS.

By WM. COOK IN *Poultry*.

**I**N an article written by Professor Woodroffe Hill, which appeared in last week's issue, there are a few paragraphs I should like to refer to. He says, "I feel constrained to state that neither a lack of sharp grit nor a too liberal supply of maize will produce tuberculosis, and I further assert that no amount of experience in poultry farming can produce evidence that tubercle can originate from such a source." Now, I have had a little practical experience on this subject, and must say the professor is wrong here. I would go into any farmyard if he likes where there are a large number of fowls, and select twenty birds and feed them on wheat, barley, French buckwheat, or anything of that kind I may choose, at the same time giving them grit, and I will take another twenty and feed them on Indian corn and give them no grit except what the birds pick up in the ordinary way, and would prove the statement he makes on the subject is wrong. Of course to test this properly the birds would all have to be of the same age, bred from the same stock and kept under the same conditions, I should like to ask the professor if he ever tried an experiment of this kind. I am aware he is scientific, but practising upon dead birds is quite different to watching their habits when alive and killing them at certain stages to find out the effect of certain foods upon them, which I have done scores of times. No doubt I open twenty birds where Professor Hill opens two, but that is not the reason I object to the theory he lays down, it is because I have found out by practical experience that he is wrong. I have many times written upon this subject, and am quite able to prove any statements I have made relating to it. I could give the result of more than twenty pens of fowls I have tried experiments of this kind upon during the last thirty years, were it necessary, and have not only studied the habits of the fowls but also what is good and what is not good for them. The professor goes on to say, "I believe in the early part of 1892 I wrote an article in your valuable journal on this subject, in which I drew attention to the want of direct proof that grit in the gizzard was an absolute necessity to enable that organ to perform its functions correctly, and that in the post mortem examinations of gizzards smooth smooth small pebbles would be found to predominate over rough grit." I thought the professor would know why smooth stones predominate over sharp ones in the gizzard, and he will do well to study this question a little more. One reason for this is because the stones become worn down by being continually swallow-

ed over and over again by the fowls (particularly if they are white or of a light color, as the birds usually pick those up first) on account of there not being a sufficient supply of grit in the ground, or the fowls have not access to it. The less grit the birds are able to pick the smoother the stones are, and the less time they remain in the gizzard. Professor Hill appears to have lost sight of this fact altogether. Again, the article goes on to say, "Unfortunately all creatures brought under domestication are more or less brought under influences conducive of disease, and this is especially so with regard to tuberculosis, &c.," and he then quotes a well known medical authority, who says, "The broadest fact established regarding the exciting cause of tuberculous deposit is that the domesticated animal is more liable to tubercular disease than the same animal in a wild state. The stabled cow, the penned sheep, the tame rabbit, the monkey, the caged, lion, tiger, or elephant, are almost invariably cut off by tuberculous affections, no doubt due to deficient ventilation, and the abeyance of normal exercise of the pulmonary functions." I am convinced that this is so to a great extent. I have not only tried experiments on fowls, but also on many animals during the last twenty-five or thirty years. Science, to a great extent, rules over many things, but practical experience in poultry keeping, at least, must stand before even science. When both go together so much the better. I never write upon a subject before I know a little about it, and am able to prove what I say is correct. Professor Hill in his opening remarks says, "Hereditary predisposition appears to have been lost site of by Mr. Cook, yet the hereditariness of tuberculosis is unquestionable, and, as I have hitherto declared, manifests itself more forcibly after the unnatural practice of breeding in and in." There is not the slightest doubt but what in-breeding in confined runs has a tendency, to bring on tuberculosis in fowls, but not so much as feeding. Take, for instance, Pheasants in their wild state, they in-breed considerably, but they are not subject to tuberculosis anything like so much as when they are kept in confinement and fed upon improper food, and have an insufficient supply of grit. I have proved this by having two lots of Pheasants kept side by side in two separate runs. One lot has been fed on Indian corn, and have no grit except what they may have picked up, and the other lot have been fed upon wheat, barley and French Buckwheat, and have had a liberal supply of grit. In three years' time in the former run there were only three birds left, and twenty out of the twenty-five died of tuberculosis. From the other run there were seventeen birds left at the end of three years, and only two died out of the eight by the disease mentioned. I still have experiments of this kind going on, and in a short time will be able to give the readers of the *Poultry* the results, if necessary. The experiments are not all tried on one soil, but at different places. I also find Indian corn brings on tuberculosis in cattle, many farmers in Lancashire and Cheshire have told me this is so. Butchers have told me they find many of their cattle are touched with tuberculous liver. This is not through in-breeding, and I know it is true, because I have spent a good deal of time in the slaughter houses when the animals have been opened.





**JUDGES' CARDS.**

Poultry.

- Sharp Butterfield, SANDWICH, ONT. All varieties.  
 L. G. Jarvis, LONDON, ONT. All varieties.  
 T. H. Smolt, WOODSTOCK, ONT. All varieties.  
 Pigeons, Rabbits and Covies.  
 I. B. Johnson, QUEEN ST. EAST, TORONTO, ONT. All varieties.  
 J. B. Jones, SIMCOR ST. TORONTO.

**"THE RABBIT."**

is the name of a neat little booklet written by Mr. W. N. Richardson, and published by the Ferris Publishing Co., of Albany, N.Y., price 20 cts. All "bunny" owners should have it.

**A TESTIMONIAL TO THE RELIABLE.**

AND SWORN TO AT THAT.  
 26th and East Ave.

Eric, Pa., April 15th, 1894.

Reliable Incubator and Brooder Co.

Quincy, Ill.

Dear Sirs :-

I have just completed one of the greatest hatches I have ever heard of with our grand "Old Reliable" and thought you would like to hear the particulars.

Three weeks ago last Wednesday I put 150 eggs into my 100 egg capacity machine by removing the turning rack, and started her up. I turned the eggs by hand and tested them on the 7th day, and to my surprise found all the eggs good but 3 or 4. I was looking for a good hatch but the grand result was better than I ever expected.

I got 144 chicks from this hatch in my 100 size incubator. Now what do you think of that? Does it not beat the best of them? Let the people know this, I am spreading the news far and near.

Wishing you the success you so justly merit,  
 I am,

Yours truly,

Louis Lander.

State of Pennsylvania,  
 Erie County.

Personally appeared before me a Notary Public in and for the above county Louis Lander who being duly sworn according to law doth depose and say that the facts above set forth are true and correct to the best of his knowledge and belief.

Sworn and subscribed this 30th day of April A.D. 1894.

George M. Fletcher,  
 Notary Public.

**SEND A STAMP FOR REPLY.**

We receive annur ly some hundreds of postal cards asking for information *not of a business nature*. Each reply costs us a three cent stamp not to mention the trouble. The latter we don't mind, but don't you think the enquirer should bear the former expense? We do and no enquiries not relating strictly to business will in future be answered unless such is attended to.

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To any one sending us four new subscribers with \$4 we will send a copy of "Poultry Culture" by I. K. Felch, value \$1.50 a book no fancier should be without. We have lots of these books so don't be afraid the supply will run out.

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If you send us the name of a new subscriber together with \$1.50 we will extend your own subscription for one year as well as send REVIEW to the new name for one year. This makes it but seventy-five cents each. The only condition we make is that the subscriber be a new one and not a renewal.

"The Dog in Health and Disease, by Prof. Wesley Mills, Montreal, \$2.25, free by mail from REVIEW Office.

**The Canadian Poultry Review**

- - Is Published at - -

**TORONTO, ONTARIO, CANADA**

BY H. B. DONOVAN

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