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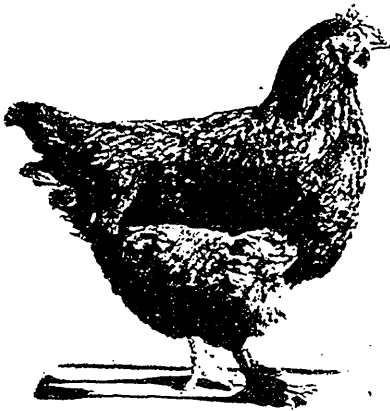
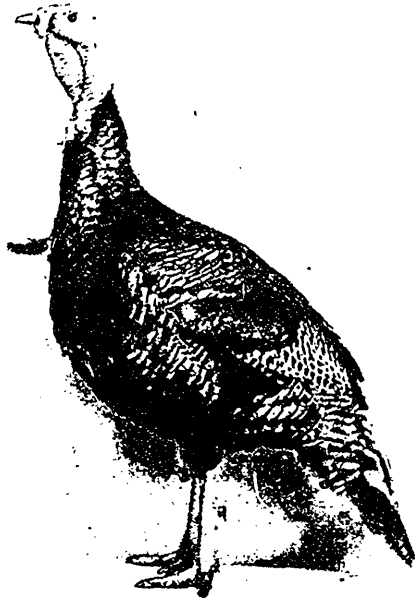
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TYPICAL POULTRY.

1. **Bronze Turkey Cock.** Bred and owned by Mr. W. J. Bell, Angus, Ont. 2. **Black Langshan Hen.** The property of The Central Experimental Farm, Ottawa. 3. **Light Brahma Cockerel.** The property of The Ontario Agricultural College, Guelph, Ont.

FARMING

Vol. XIV.

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No. 5.

THE PERMANENT SECRETARY OF THE POULTRY ASSOCIATION OF ONTARIO.

We have pleasure in presenting to our readers, in connection with our special poultry number, a portrait of Mr. THOMAS A. BROWNE, the permanent secretary of the Poultry Association of Ontario. Mr. Browne was ap-

pointed to this position in 1892. The appointment was made practically without his knowledge, and was brought about as follows: The Minister of Agriculture felt that the association was not doing as much for the benefit of the community generally, and especially for farmers, as it ought to do. It was receiving a large annual grant from the Legislature, but was not making any adequate return for the same. He saw, however, that a part of this inefficiency of the association was due to the fact that its secretary was changed at the end of every year, and that, therefore, before any incumbent of the office got really acquainted with the duties of his position his term of office

would expire, and he would be succeeded by a new man who would have to go through all the learning process again. He thought that if a competent man were appointed to the position as a permanency there would be a

great gain in efficiency; and, having made a proposition to this effect to the association, the members immediately acquiesced in it, and determined to act accordingly. Mr. Browne's marked success in the administration of the

business of the Western Fair Association, of which he had been manager since 1890, and his popularity with the leading poultrymen of the province, led the Association to fix upon him as the man of their choice, and he therefore received the appointment, and, as was said above, practically so without his knowledge. —Since Mr. Browne's appointment to the position the association has greatly prospered, especially in its annual exhibitions, which are acknowledged to be among the finest on the continent. Mr. Browne's practical experience as an accountant led him to devise a set of books and sheets for keeping the records and making the entries for the

annual shows, which have been found exceedingly efficient, so much so that they have served as models for similar associations in many other parts of the continent.

Mr. Browne's career as manager of the Western Fair



Thos. A. Browne, London,

Secretary of the Poultry Association of Ontario, and of the Western Fair Association, London.

of London is so well known to all stockmen that it need not be referred to here. Energetic, thorough, and firm in the administration of the rules and policy of his association, he is also courteous and obliging to anyone that his duties bring him in contact with. The time-honored phrase, "*Suaviter in modo, fortiter in re,*" (kind in manner, decided in action) describes his characteristics as an

executive officer to a dot, and well explains the general esteem in which he is held.

Mr. Browne is a thoroughly well-trained man of business, and a successful one also. His private business is that of real estate and general agency and accountancy work. But he is also auditor of two of the strongest loan companies of Western Ontario.

POULTRY KEEPING FOR PROFIT.*

By F. E. HEGE, Poultry Manager, North Carolina Agricultural Experiment Station, Raleigh, N.C.



LOCATION AND SIZE OF THE POULTRY YARD.

In selecting a location for the poultry yards, great caution must be exercised. Select a high and dry piece of ground, which inclines to the south, if possible, and having thereon an abundance of good shade. The soil should be rather sandy, so as to insure a perfect drainage. A sticky clay soil is to be avoided, as dampness is detrimental to the health of old as well as young stock. The more range the fowls have, the less expense it is to keep them, and the egg production and general health is far better than when they are too closely confined. Though we prefer free range, yards either 25 x 150 or 50 x 150 feet are very satisfactory, while many breeders of fancy or pure bred fowls do not occupy even as much ground. The yards should be sown to clover or grass, so the fowls may have an abund-

Mr. F. E. HEGE was for some time the leading partner in the firm of F. E. Hege & Co., the owners of the famous Riverside Poultry Farm, of New Berne, N.C., one of the largest and most complete poultry establishments in the United States, where Buff and Partridge Cochins, Indian Games, Black Langshans, Silver and White Wyandottes, Barred and White Plymouth Rocks, Black Minorcas, Light Brahmas, and White and Brown Leghorns, as well as many other varieties of fowls are very extensively raised. This farm is sixty acres in extent, and is devoted wholly to poultry and pets. It contains fifty breeding yards for chickens, each 25x180 feet, 125 breeding pens for rabbits, and eight pheasant yards. It is one of the show stock places of the Southern States. It is now owned and managed by Mr. Hege's late partner, Mr. William Dunn. Mr. Hege has also been a noted prize winner at all the leading American poultry shows. In November, 1895, owing to ill-health, Mr. Hege gave up his business, and accepted the position of poultry manager of the newly established poultry division of the North Carolina Agricultural Experiment Station, in which post he has been very successful. Mr. Hege is still a young man, having been born only in 1868, but he has established a continental reputation of which he may well be proud. He began breeding fowls when only fourteen years of age. His business was all worked up by himself from such a beginning as any boy of enterprise might make. His success ought to be an encouragement to our young Canadian boys to try to achieve similar results.

ance of green food, which is a positive necessity. Yards the sizes above mentioned are large enough for from twelve to twenty five fowls. On farm where land is plentiful it is best to place houses in different parts of the land, in close proximity to the home, in order to be convenient. Not more than twenty-five grown fowls should run together in order to realize the most from them; fifty hens in one flock will not produce near what the same hens would if divided into two flocks; besides, where so many run together, disease is more certain to put in its appearance.

POULTRY HOUSES.

The farmer can no more expect to realize a profit on his hens when they are not properly housed than he would from his cattle when allowed to remain out in all manner of weather. In housing the poultry it is not necessary to build elaborate,

*Being a part of a Bulletin issued by Mr. Hege, under the auspices of the North Carolina Agricultural Experiment Station. The selections have been made by Mr. T. A. Duff, Toronto, and are published by permission.

expensive structures, but simply to have them warm, dry, and in the right location. The houses should always face south or a little southeast, that they may have the benefit of the morning sun in winter. The warmer the hens are in winter, the more eggs they will lay.*

CLEANING POULTRY HOUSES.

Poultry houses should be cleaned during summer and winter once or twice each week, and after each cleaning the floor should receive a thin coating of air-slaked lime. Once or twice a month during the summer, previous to placing the lime on the floor, the entire inside should receive a thorough sprinkling with kerosene emulsion,† or water containing 1 oz. liquid carbolic acid to the gallon. In addition to this, the roosts should be scrubbed regularly once a week with pure kerosene oil. The houses should also be whitewashed inside three or four times yearly. As duck houses have no roosts the floor should be covered with clean straw as often as needed, and kept free from

*NOTE—By MR. DUFF. The poultry houses described by Mr. Hege, though excellent for the climate of North Carolina, would not be suited to the climatic conditions of Canada, and so his descriptions of them are omitted.

†Kerosene emulsion can be made as follows: Bar soap, ½ pound; boiling water, 1 gallon; kerosene oil, 2 gallons. Directions: Dissolve the soap in the water, add the kerosene, and churn until thoroughly emulsified. Dilute by adding 9 parts of water to 1 part of emulsion, before using.

odors by the liberal use of disinfectants. White-wash the inside of duck-houses as often as you do the poultry houses.

PUREBRED POULTRY.

In the following paragraphs is given a brief description of a few of the eighty-four varieties of purebred poultry. While there are other breeds possibly their equals, still these are our preferences.

LIGHT BRAHMAS.

This breed stands at the head of the list of purebreds. During the past forty years, while many other breeds have come and gone, they have held their ground, and are the subject of more praise now than ever. They are the largest of all our poultry, and consequently they furnish more pounds of flesh in a year from a given number of young ones raised, than any other variety. Their eggs are very large, dark brown, and highly nutritious. Being most excellent winter layers, the amount realized from the sale of eggs in a year is larger, possibly, than from any other variety. The young are very hardy, grow rapidly, though they feather slowly. With good attention (barring accidents) all the healthy hatched young ones can be reared. They are not to be recommended as sitters, as they are heavy and awkward on the nest, and are prone to break the eggs. They are suitable for fancier or for farmer, as they stand confinement well, a four-foot fence being sufficient to hold them,



A Group of Farm Poultry, Rose Comb and Single Comb White Leghorns,
The property of A. F. Dimma, Locust Hill, Ont.

and they are at home on the farm. For grading farm flocks, where the hens are of good size, they are of great value. Cocks weigh 12 lbs., hens 9½ lbs.

BUFF COCHINS.

It is impossible to show in an engraving the beautiful color of buff Cochins, which, as the name indicates, is a clear, uniform buff throughout. They are almost as large as the Brahmas, and look really heavier, as their feathers are more fluffy and their bodies deeper and broader than any other variety. Cochins are extremely hardy from the shell to maturity, and fairly good layers of nice brown eggs, and, if not too old, will moult early, and begin laying soon after. They consequently become broody in the early spring just at the time when sitters are wanted, and for that purpose they cannot be excelled. We do not



Partridge Cochin Hen,
The property of Wm. Stewart & Son, Menie, Ont.

find them too awkward and clumsy, but good, careful sitters. We have had one hen to hatch four broods in thirteen weeks, by transferring the chicks to other hens as soon as hatched. Cochins are lazy, and do not really care for a large run, therefore are desirable for city yards, or persons anywhere who do not care to allow the fowls free range, though we must always bear in mind that the larger the run the better the results will be. A four-foot fence will keep them in. There are other varieties of Cochins, viz.: Black, White, and Partridge. Cocks weigh 11 lbs., hens 8½ lbs.

BLACK LANGSHANS.

The natural home of the Black Langshans is the northern part of China, and many breeders import from there yearly the finest specimens

obtainable for use in their yards, while other importations are made from England. As a general purpose fowl they seem to meet the wants of a large portion of American fanciers. Our personal experience has taught us to prize them very highly, both for eggs and table fowls. Their combs are medium in size, standing erect on both male and female, and somewhat larger than the Cochins. Their plumage is a glossy greenish black, full of lustre. Their breast is full, broad, and round, and carried well forward, body deep and slightly resembling the Brahma. They are feather-legged, but not near so heavy as the Cochins or Brahmas. We find them exceedingly hardy from the shell to maturity, and great winter-layers of large, brown eggs. Their skin is white, the meat very tender and juicy. They are equally valuable in the city or on the farm, and their popularity is increasing steadily, as they combine nearly all the valuable characteristics that go to make up an ideal general purpose fowl. Their main drawback is the popular aversion to white meat and black feathers. Cocks weigh 10 lbs., hens 7½ lbs.

BARRED PLYMOUTH ROCKS.

Barred Plymouth Rocks are general favorites the world over. The body color is greyish white, each feather regularly crossed with parallel bars of bluish black, producing the effect of a bluish tinged plumage. Beak and legs yellow, combs rather small, wattles of medium length, and not likely to be frosted. Their meat is yellow, plump, and firm. They are adapted to either farmer or fancier; their disposition is gentle, and they bear confinement well. As egg producers, sitters, and mothers they are very satisfactory. The young are hardy, quick growers, easily reared, and are ready to dispose of as spring broilers in from eight to ten weeks from hatching. To persons so inclined, a trial will convince them of their usefulness. Cocks weigh 9½ lbs.; hens, 7½ lbs.

WHITE PLYMOUTH ROCKS.

White Plymouth Rocks are identical with the barred, with the exception of color. They are one of the most popular of white breeds. They are vigorous, strong, and hardy, either as chicks or grown fowls. They grow rapidly and mature early. We find them, if anything, superior to the Barred Plymouth Rocks in egg production, and valuable for winter layers. They make elegant market fowls, the absence of dark pin feathers, and the rich yellow skin covering a firm, juicy, and plump body, making an attractive sight. Add to the above qualities that they otherwise present a very handsome appearance. They are sought after for the lawn and for general purposes. Cocks weigh 9½ lbs.; hens, 7½ lbs.

WHITE WYANDOTTES.

This breed has enjoyed great popularity for the past few years, and are the equals of any breed for a general purpose fowl. They are very hardy, and mature early. In northern markets they are much sought after for early broilers. Having a low rose comb, many prefer them to all others, as they can withstand the cold much better than some other breeds. Their legs, beak, and skin are a golden yellow, resembling creamery butter. Being more compact than the Plymouth Rocks, they make even a better market appearance. The hens, being splendid sitters and mothers, are valuable for that purpose also. For those who do not fancy a white fowl there are other Wyandottes, viz.: Silver, Golden, Buff, or Black, all of which are identical save in color. Cocks weigh $8\frac{1}{2}$ lbs. ; hens, $6\frac{1}{2}$ lbs.

LEGHORNS.

The single comb Brown Leghorns are more extensively bred in this State than any other variety. Their shape is identical with the White Leghorns. The Leghorns are wonderful egg pro-



Rose Comb Brown Leghorn Cock,
The property of Wm. Stewart & Son, Menie, Ont.

ducers. The immense erect comb, long pendulous wattles, white ear lobes, bright red hackle, saddle, wings, and back, and rich black breast of the Brown Leghorn cock give a most artistic finish to his costume, and present a pleasing appearance to fancier and farmer alike. The hens, more tamely furnished with different shades of brown and black on body, dark salmon-colored breast, together with a bright red comb, lying well over to the side, harmonize well with the male. Their great activity and peculiar knack of taking care of themselves make them very

desirable. They mature very early, pullets often laying when four to five months old ; they are non-sitters. Though one of the smaller breeds, they are at the same time fine table fowls, having small bones with plump meat, which is delicious and tender. A Leghorn cock is invaluable for crossing when an increase in egg production is specially desired. The other varieties of Leghorns, Buff and Black, are the equals of the Browns in every way ; hence in making a selection color is the deciding point. There is no standard weight to Leghorns.

BLACK MINORCAS.

The Black Minorcas resemble in shape and style the Leghorn, only they are larger. This breed can be safely recommended to lay as many eggs as any breed, not excepting Leghorns. Their eggs are very much larger than the Leghorn. They are hardy both as chicks and fowls, mature very early, and are non-sitters. Their adaptability to any soil makes them very popular, and suitable to either fancier or farmer. Their plumage is a glossy black, with a greenish lustre. The chief and striking ornament of the cock is his comb, which is extra large and heavy, standing erect at all times, while the combs of the hens are large in proportion, but lie over to one side in a graceful fold. Wattles are long, thin, and pendulous ; ear lobes large and pure white, making a striking contrast. Altogether they are very stylish, proud, and handsome. The White Minorcas are the equals of the Blacks in every way. Cocks weigh 8 lbs. ; hens, $6\frac{1}{2}$ lbs.

DUCKS.

Of all standard breeds of ducks, the Pekin is the most popular and profitable.

Ducks have always been reared in or near ponds, and the general supposition is that water in large quantities is an indispensable adjunct ; while the fact is, a pond or running water for the old ducks is all that is wanted, and even that is not necessary. It is detrimental to the young, and they should not be allowed to have more than a plentiful supply of cool, fresh drinking water, and even that arranged in such a way that they can only get their bills into it.

Pekin ducks lay from 100 to 150 eggs yearly, beginning about the middle of January, and continuing until near the first of August. During the laying season they should be kept housed, or in a small yard, until eight or nine o'clock in the morning, or until all have laid, otherwise the eggs will be scattered all over the place. They are non-sitters, hence hens or incubators must be used for hatching their eggs.

Mating. From five to seven ducks to each drake is near correct. If the ducks are one year old, the drake should be two if possible. Better results are generally obtained in this way.

Feed for Laying Ducks. To insure plenty of eggs, correct feed must be given them during the laying season. A good food that all can obtain from the farm, and one that gives very good results, is composed of the following mixture, to be fed morning and night: Cornmeal 2 parts, ground oats 1 part, wheat bran 1 part, middlings 1 part; season with salt, and mix with hot water or skim milk. Clover hay cut fine, steamed and mixed with the above feed, increases egg production, and promotes the general health. Plenty of green food should be given them at all times.



Black Langshan Cock,

The property of Wm. Stewart & Son, Menie, Ont.

Do not feed the mixed food sloppy, but so that it sticks well together. The morning feed should be about one-half what is fed in the evening, so that they will exercise themselves during the day. Avoid getting them too fat, or few and infertile eggs will be the result. We cannot specify the quantity for each meal, as the owner must be the judge. Ground green bone or beef scraps make most excellent feed, and those who have the opportunity of procuring either will find it profitable feed.

Hatching. It requires four weeks to hatch the eggs, and if incubators are used, do not try to hatch hen and duck eggs at the same time, as each kind requires different treatment. Do not disturb the hen after the eggs begin to pip, or

dead ducklings will be the result; they generally pip from 36 to 48 hours before hatching.

Care of young ducks. Begin feeding when twenty-four hours old. We feed the same as the old ducks, and give all the skim-milk they will drink. For the first two weeks feed five times daily, the next two weeks four times daily, and after that until ready for market (which is when from 8 to 12 weeks old), three times daily. Feed in small troughs with narrow slats nailed upright on sides, two inches apart, so as to avoid their tramping on the food. Give all they will eat, and never allow any food to remain in the troughs. Green food, such as chopped lettuce, cabbage, clover, or grass, is greatly relished, and should be fed as often as possible, mixed with the soft food. Their water should be fixed so that their bills only can get in it, and a plentiful supply should be constantly before them. Always shut them in a dry place during a rain, as dampness is generally fatal. Close them up at night in a dry place.

Diseases. Duck diseases are few. About the only thing that troubles them is leg weakness, which is caused by too high feeding, damp quarters, or from being trampled upon. The remedy is to isolate the afflicted duck, using clean straw for bedding, place water within reach, and feed sparingly for a few days. They generally recover. Lice occasionally trouble them, though if the houses are kept clean and dry there is little danger of their proving dangerous.

Housing. An ordinary shed, with a tight roof and dry dirt or board floor, will answer very well. See that it is kept clean, and straw used for bedding; fasten them in each night.

General remarks. Pekin ducks should weigh from four to five pounds when nine weeks old, while a chick at that age weighs about two pounds. A grown Pekin drake weighs eight pounds, the duck seven pounds. The cost of raising them to five pounds, *i.e.*, if fed properly from the shell to that weight, will not exceed six cents per pound. House, feed, and attend to the old and young as you should, and you will be agreeably surprised at the result, for it pays to raise them.

CROSSING PUREBRED COCKS ON COMMON HENS.

We have before alluded to this subject in discussing the different purebreds, but again call attention to it.

The object of crossing with purebred cocks on common stock is to improve naturally, yet often mistakes are made because the proper breed is not selected. The following will be found the names of the most desirable ones, and the advantages to

be derived from their use on common hens. At the low prices which poultrymen are asking for eggs, from breeds that have been tested, breeds that have cost the originator hundreds of dollars to produce, it is really a sacrifice of valuable time to try to grade up the average flock; hence, to those who desire improvement and have the means to make the purchase, we especially advise the trying of a few eggs, if a whole yard of the breed is not desired. To those who, for a while at least, do not care to discard the mongrel, we would urge them to grade up their flocks. So noticeable will be the change in the young stock, that we can safely state that it will not be a great while before thoroughbreds are used altogether. The Light Brahma male makes a desirable cross where size is the main object. The characteristics of the grades bred from such a cock are that when grown they far outweigh their parents on the female side, and produce larger-sized eggs and in greater abundance, but they do not develop early enough to make a first-class broiler at an early age. The vitality of such a grade is great, the young withstanding almost any rough treatment, and responding very promptly to good attention, which pays, no matter what variety is raised. Buff Cochin males used for crossing tend to increase size, vitality, and a better appearance. We do not consider them as desirable as the Brahma, yet some prefer them. Black Langshan cocks (barring color) we especially favor, if hardiness, appearance, and winter laying are desired. We have always found them good winter layers

of good-sized brown eggs. The grades develop faster than either of the foregoing.

Barred Plymouth Rock cocks are very extensively used for grading, and, being an old variety, they are now more widely scattered than the other varieties. The grades from them mature early and are very hardy. They generally take the color of their sires. The meat being yellow, as well as the legs, makes them very saleable stock. The White Plymouth Rocks are the equals of the Barred, and are preferred to the latter by many, as the young are free from black or dark pin feathers.

White Wyandotte crosses we consider the best of all for broilers, as the young stock (grades) are more compact, equally healthy, and, as a rule, carry more flesh at an early age than either cross mentioned. They will readily show good treatment, and it is advisable to feed well when young, which is equally true of all varieties. Pullets from such a cock mature and lay early in the fall, and continue to lay throughout the winter.

The Indian Game is a good fowl for grading flocks for several reasons, viz., the young are always fat, the color of the skin is yellow (except in some cases where black hens with white skins are used), and their weight is remarkable, much greater than it would seem to be, deceiving all who are not familiar with the breed in its purity. Pullets mature fairly early and lay well; in fact, much better than those of the pure Indian Game, which we have always found rather poor layers. The main drawback in such a cross, or even in its



Pyle Leghorns.

A new variety of Leghorns, now bred by Charles Massie, Port Hope, Ont. These Pyle Leghorns are a very handsome variety of Leghorns, having the same rich coloring as the Pyle Games. They are larger than the White or the Brown Leghorns. Mr. Massie says they are excellent layers, and that their eggs are large and rich-flavored.



A Group of White Wyandottes,

Bred and owned by Charles Massie, Port Hope, Ont. All the birds shown in this group are high prize winners at the Ontario Poultry Show and other exhibitions, and all have scores of from 95 to 56½ given by the best Canadian judges.

purity, is that they are more subject to colds or roup than many others, owing to their scant feathering. It is not advisable, therefore, to hatch such grades late in the summer.

For egg production nothing can equal a Leghorn cock for crossing, and when this is wanted more than size it will pay anyone to add a few of these cocks to the flocks. They can be purchased in our State at a less figure than any other variety, as they are bred very extensively in some sections. Black or White Minorcas have the characteristics of the Leghorns, so far as laying is concerned, and are larger; therefore they would possibly suit some persons whom the Leghorns would not. The eggs from the Minorcas are large—in fact, no purebred fowl lays a larger.

The Houdan (a French fowl), having a crest, beard, and five toes on each foot, are recommended very highly for use on barnyard hens, but we have never been particularly pleased with results from such a mating.

Dorkings are also prominently mentioned by many breeders, but, having had no experience with them, we cannot offer an opinion.

The following are a few instances of crosses made at the station this season. Selecting the largest specimens, we append their weights and ages at this date (Sept. 1, 1896): Cockerel from Light Brahma male and common female, hatched March 3rd; present weight, 9 lbs. 8 ozs. Cockerel from Indian Game cock and common hens;

present weight, 8 lbs. 2 oz. Cockerel from Indian Game cock and Barred Plymouth Rock female; present weight, 7 lbs. 5 ozs. Cockerel from Barred Plymouth Rock on large common hens; present weight, 7 lbs. 3 ozs. Pullet from Light Brahma cock and common hens; present weight, 6 lbs. 14 ozs. Two pullets from Indian Game cock and common hens; present weights, 5 lbs. 8 ozs. and 5 lbs. 15 ozs. The following hatches were made March 22nd: Cockerel from Indian Game cock and common hens; present weight, 7 lbs. 11 ozs. Two pullets from same crosses weigh now 5 lbs. 8 ozs. and 5 lbs. 10½ ozs. Cockerel from White Wyandotte cock on common hens; present weight, 7 lbs. 12 ozs. Cockerel from White Wyandotte cock on Light Brahma hens; present weight, 8 lbs. 2 ozs. Pullet from White Wyandotte cock on Light Brahma hens; present weight, 6 lbs. 1 oz. The Indian Game crosses are all in better flesh and feather than any other, and owing to early hatches have been free from colds entirely. The other crosses will, no doubt, gain more in future than the Indian Game, as they were less developed than the latter.

DISEASES OF POULTRY.

The remedies herein specified are selected because they have been used successfully by the best known American breeders, and such as we have found can be depended on. While prevention is

far better than a cure, yet often valuable specimens are afflicted and are worthy of close attention in order to effect a cure. The better plan, however, is to kill and burn or bury deeply any fowl showing signs of a contagious disease, immediately taking steps to prevent a spread of the same by thoroughly cleansing and disinfecting the houses, drinking and eating vessels, and all parts of the yards where the range is small. If fowls have free range, sprinkle lime all around their house in addition to cleansing, etc. A good disinfecting liquid is 1 oz. carbolic acid mixed with 1 gallon of water. It should be sprinkled over such places as the fowls have access to. A thick coating of whitewash over the inside of houses, fences, and nest boxes is very advisable; and kerosene emulsion should be sprinkled over the yards where fowls congregate, and in the houses.

CHOLERA AND DIARRHŒA.

The disease commonly termed cholera is very prevalent in the South, especially on farms where no sanitary precautions are taken. While genuine cholera is scarce, many persons imagine that when the fowls begin to mope around and gradually weaken and die, and these symptoms are accompanied by a thin, watery discharge, that cholera has attacked their flocks. In nine out of every ten cases the sickness is caused by indigestion, lice, and filthy surroundings. Irregular feeding gradually brings on indigestion in fowls just as in man; while an absence of sharp grit for grinding material is also very detrimental to their health, the natural consequence of which is bowel complaint in its worst form. Cholera rarely attacks a flock in winter, while from July to October hundreds die. During the winter months lice do not cause so much damage to the flocks; but when warm weather begins lice begin breeding, and if proper attention is not given the houses and fowls to rid them of these pests they suck the life blood from the fowls, which so debilitates them that they are easy prey to any disease that may chance to be in the neighborhood. The man who makes a business of raising poultry, very seldom complains of this disease, because from the beginning he fights the cause of it. Remember that when your fowls begin to mope, refuse to eat, and in a week or two die, that it is not cholera that kills them—for cholera kills in from twenty-four to forty-eight hours, never longer. A genuine case of cholera is very contagious, and heroic measures must be taken to avoid the spread of it, else the whole flock may go. The following remedies are good:

As fowls with cholera are intensely thirsty, a mixture made as follows may be used: Laudanum, 1 oz.; tincture capsicum, 1 oz.; tincture cam-

phor, 1 oz.; chloroform, pure, 3 drams; alcohol, 5 drams. Mix, and shake well. Add two teaspoonfuls of this to each quart of drinking water, and allow none other till cured. Isolate the affected fowl immediately, as the main point in trying to cure it is to act quickly.—*I. K. Felch*

We find that a small piece of logwood added to the drinking water daily is a good preventive of bowel trouble.

Make a strong tea from white oak bark, and add one-half pint to each quart of drinking water, and allow no other drink. If the fowl is too weak to stand, give a teaspoonful three times a day, and feed on soft feed, mixed with the tea. If too weak to eat, feed her with the hands.

Another Felch remedy is forty capsules made of the following drugs, and give one pill in morning and one in evening: Papoid, 40 grains; sub-nitrate of bismuth, 40 grains; powdered ginger, 20 grains; listerine, 2 ounces; powdered charcoal, one-half ounce. For a drink, use the first receipt given above.

A beneficial drink for fowls with a touch of diarrhœa is composed of one-sixteenth of an ounce of sulpho-carbolate of zinc to each pint of drinking water, and for fowls badly affected give (after isolating) a 2-grain Dover's powder every two or three hours, until checked. For bowel disease in chicks, feed often and little on nourishing food; keep them warm and dry, and add five drops tincture nux vomica to each pint of drinking water.

An excellent remedy for cholera and diarrhœa is a teaspoonful of liquid carbolic acid to each quart of drinking water, and give the fowls plenty of clean, sharp grit. Always remember that on the appearance of disease to thoroughly cleanse the poultry-house, and use in connection some good disinfectant.

ROUP.

Roup makes itself manifest in many ways, and, while it is extremely troublesome, we do not believe it is contagious; however, to be on the safe side, it may be best to isolate at once any fowl affected. A case of roup, not too far advanced, can be cured with very simple remedies; while, if it takes a strong hold on the fowl before being detected, it is best to kill and bury it, as it is difficult then to cure, and even if cured the fowl is of little value afterward. The suggestions below, clipped from *Our Poultry Doctor*, cover the ground so efficiently that they are reprinted entirely:

“The first symptoms of roup are almost exactly like those of a ‘cold in the head’ in a human subject—hoarseness, sneezing, watery eyes, and a slight watery discharge from the nostrils. Som-

times fowls that have strong vitality, and are well housed and cared for, will throw off the cold and recover in a few days without any medicinal treatment; but in the majority of cases the disease, if not treated in the first stage, when it is nothing but a cold, progresses rapidly to the second stage, when the hoarseness and rattling in the throat become more pronounced; the patient shows fever and weakness, the eyes are more inflamed and watery, the discharge from the nostrils grows yellow and thickens and becomes offensive as the disease progresses. In the third and last stage the fowl is very weak, the nostrils are clogged with thick, offensive matter, the head swells, one or both eyes are closed, ulcers form in the throat, and sometimes around the eyes, the comb turns black, and the fowl dies. Sometimes the roup appears in the violent form at first, the

cured enough to 'make a live of it,' it will be so enfeebled and broken down that it will not be worth the medicine it will take to cure it, to say nothing of the time. No roup fowl on earth was, or ever will be, worth all the time, trouble, and drugs it takes to cure it after the disease has reached what one poultry-raiser aptly termed the 'stinking stag.'

"The time to cure roup is before the fowl really has it; *i. e.*, before the cold 'settles' into roup. As I before remarked, every case of cold may not settle into roup, but it is safe to assume that every fowl that has a cold is liable to have the roup, and so proceed to get ahead of the roup by curing the cold."

The following remedies are taken from *Farm Poultry*.

"A remedy for a sneezing cold, which we have



A Group of Light Brahmas.

The property of The Ontario Agricultural College. These birds are considered by competent judges as excellent specimens of their variety.

first noticeable symptoms being great swelling of the head and around the eyes; and sometimes it commences in the throat. When it first appears in such violent form it usually kills quickly.

"From my experience with roup I don't believe that it is worth while to doctor a roup fowl after the disease has fairly settled in the fowl's system. Fowls that have a cold in the head, or even slightly swelled eyes and head, and some canker in the throat, can be cured if taken in hand in time; but when the head is very much swelled, the eyes sore and closed, the appetite gone, and the nostrils fairly clogged with matter that is so offensive you can smell it a rod away, the sooner you kill that fowl the better all round; for, even if a fowl in that stage of roup can be

found efficacious, is as follows: A tablespoonful of clean lard, half a tablespoonful each of ginger, cayenne pepper, and mustard; mix well together, and then add flour till the whole has the consistency of dough; roll into slugs about the size of the top joint of the little finger, and put one down the patient's throat. The dose can be repeated in twelve or twenty-four hours, according as the case seems to need it; but one slug frequently cures, if the case is taken in time.

"For swelled head we bathe with a glycerine turpentine lotion and for sneezing cold and swelled head combined use lotion and remedy mentioned above; if the patient does not show signs of improvement within three days after beginning the treatment, take off its head and bury

or burn it; the disease has got a strong grip, and it is difficult to shake it off. Where colds have been manifested in some of the flock a pinch of bromide of potassium in the drinking water aids in preventing the disease spreading amongst others. Fanny Field says: 'I have cured fowls of cold or distemper by giving a dose of a table-spoonful of castor oil at night, and then for three or four days, or until all symptoms of cold had disappeared, confining them to the house and giving them some tonic—Douglass Mixture or condition powder, whichever I happened to have—in the food once a day.'

A writer in *Poultry*, in October, 1884, gives the following prescription: "Cayenne pepper, one grain; sulphate of copper, half a grain; copaiba, three drops. Mix with sufficient flour and water to cohere into a pill, and give one such night and morning. This has been found successful in many bad cases."

"Spongia" is recommended by believers in homœopathy. The dose is 30 drops in each quart of drinking water until the symptoms of a cold have disappeared.

A very simple remedy which we have used effectively at the station this year has been strong salt water, in the following manner: When a fowl is affected with a slight swelling around the eyes, or a thin, watery discharge at the nostrils, place the bird in a coop, in a warm room, and apply to the head twice daily the salt water, heated to about 100 degrees. Feed on soft food seasoned strong with red pepper, and in a few days the swelling or discharge will entirely disappear. Another good remedy is to bathe the head twice daily with kerosene oil, and inject with a glass medicine dropper (after cleansing nostrils carefully) one or two drops of same oil in each nostril, and the same in roof of mouth.

If the fowl is seen to gasp for breath, or has a rattling in the throat, examine carefully and you will find a white, cheesy substance adhering to the sides of the mouth and throat, and also on end of windpipe. This substance on the windpipe gradually increases, and makes the breathing space smaller and smaller, until the fowl can breathe no longer, and death is the result. At

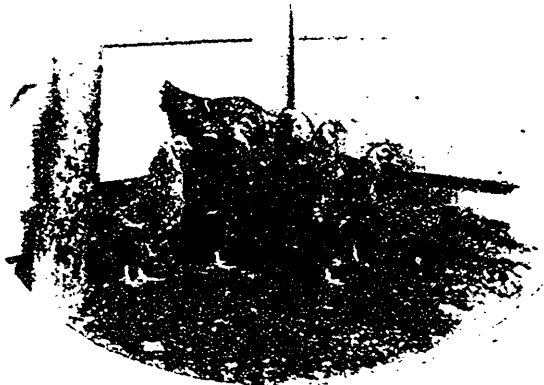
once, on discovering the fowl in this condition, catch it, and, with the aid of another person, open the mouth, and with a smooth flat stick or quill remove the cheesy substance; then sift into the mouth and on the end of windpipe finely powdered sulphur. Keep a close eye on this fowl, and, if needed, repeat the operation. If this substance extends down into the windpipe, a cure cannot be effected.

An ounce of Lloyd's Hydrastis (colorless), diluted with an equal amount of water, is also a good remedy, when merely a discharge at the nostrils or a rattling in the throat occurs. Inject with the medicine-dropper a small amount in the throat, and also in each nostril. Give them for drink a teaspoonful of this remedy to each gill of water. This we have used with success.

GENERAL DISEASES.

Scaly Legs.—This disease is caused by a very minute parasite being under the scales on the legs, and while it does not materially damage the fowl,

except in looks, if it is allowed to remain the scales will eventually become so thick that it is with difficulty that the fowl can walk. In its first stages a cure can be quickly effected by bathing the legs twice per week with soapsuds and warm water and then placing the feet and shanks in kerosene oil



A Group of Silver-Laced Wyandottes,
The property of The Ontario Agricultural College.

for two or three minutes. Four or five applications generally effect a cure. In order to avoid a spread of the disease, it would be advisable to soak the shanks and feet of every fowl in the house at least once, and give the roost a wash with oil once a week for a short time.

Bumble Foot.—This trouble is generally caused by roosts being too high. It seldom affects the lighter breeds. The best remedy is to remove the roosts and compel the fowls to sit down at night on straw. While there are various cutting remedies, there are really none that are especially beneficial; the above remedy, assisted by nature, is as good as we know of.

Leg Weakness.—This generally occurs in young chicks, and especially in larger breeds, and is caused by too much heat, overcrowding, lack of exercise, too heavy feeding, and lice. Remove the chicks to a yard by themselves, and give

plenty of fresh water and litter to scratch in ; feed regularly but not too much ; make them work for a living, and be sure they are free from lice. Feed wheat or any food not producing an abundance of fat.

Feather Pulling.—This trouble, which so frequently occurs when fowls have small runs, is a very annoying one, often making the fowls bleed, and present a very ragged appearance. It is considered due primarily to a mite insect upon the skin. The following, written by Mr. M. K. Boyer, for *Farm Poultry*, is about the best we have seen of much interest in this connection, and is printed *verbatim* : The vice of feather pulling is undoubtedly the worst mischief a fowl can get into. It is a bad habit, and often due to the overcrowding of the flocks. Idleness is the prime cause, brought on by not having enough employment. The only remedy we found, where the fowls were closely confined, was to allow them free range. All sorts of ideas and cures are suggested by different writers, among them the following :

“ Smear a little tar over the plucked spot.”

“ Trim the beak ” (which is too cruel for practical use).

“ Supply an abundance of green food and meat.”

“ Give a teaspoonful of salt to two quarts of soft feed every morning, the theory of which is that the saline matter of the feathers supplies something they do not get.”

“ Smear the feathers around plucked spot with tincture capsicum.”

“ Give them regular feeds of nothing but feathers and they soon tire of them.”

“ Daub the feathers around the bare spot with kerosene oil.” (Many writers advocate this remedy.)

“ Place powdered borax where the fowls can have free access to it.”

“ Give all the salt pork they will eat ; this will not harm them. Place a large piece in a rack, where they cannot get it in the dirt, and let them pick away.”

“ A cabbage head tied up in their pen will stop the practice.” And so each man has a different remedy.

Crop Bound.—Crop bound is caused often by some obstruction that will not allow the food to pass into the stomach, or by too heavy feeding, lack of green food, or any undigested food. It can be easily detected by a swollen appearance of the crop, and by the uneasy appearance of the fowl. If it is merely indigestion, it may pass off ; if not, give a tablespoonful of castor oil, and work the crop well between the fingers until soft. If that fails to relieve cut the crop near the top (about an inch long) and remove the contents, then after

well greasing the inside sew the place up with silk thread, stitching the outer skin only. Place the fowl in a roomy coop and feed for a week on soft food only, allowing no water the first day.

Frosted Combs.—By housing the fowls in a warm place—*i. e.*, a tight house free from draughts in winter—they will not be troubled. Should by accident some be affected, oil the combs with glycerine or vaseline and coop them separately till healed, as often the other fowls pick at them, causing them to bleed incessantly. For fowls having frosted feet there is really no remedy. It is best to kill all such, if badly affected.

Egg Eating.—This vice may be prevented by using dark nests. It is caused by idleness generally, or by hens laying in unprotected places. A confirmed egg eater is a nuisance in any flock, and should be killed at once, as she may teach the habit to the others. This habit is generally confined to hens in close quarters. If a valuable fowl is addicted to the habit, allow her free range, and it may effect a cure.

SIGNS OF HEALTH AND DISEASE IN POULTRY.

The foregoing diseases are the most prominent and important ; and while there are many others, we hardly think it of sufficient importance to continue further with this chapter, except to add the following article from the *Wisconsin Agriculturist*, which is of practical value, and should be studied with care :

“ When fowls are judiciously fed, made to take exercise, and their quarters kept clean and free from lice, there is comparatively no trouble with sickness, except in cases of contagion.

“ Poultry-raisers should learn the causes of diseases, and how to prevent them, and there will be no need of medicines in the poultry yard.

“ When the combs and wattles of the fowls are of a bright red color it indicates a condition of health.

“ When the fowls are busy scratching, the hens laying and singing, and the cocks crowing, these are signs of health.

“ When you can enter the hennery after dark and hear no wheezing, it proves there are not any rumpy fowls in the flock.

“ When the manure is hard, and a portion is white, it indicates a healthy condition of the digestive organs.

“ When the edges of the comb and wattles are of a purplish red and the movements sluggish, there is something wrong.

“ When fowls lie around, indifferent to their surroundings, they are too fat, and death from apoplexy, indigestion, or liver complaint will result unless the trouble is corrected.

"When the fowls are restless, and constantly picking in their feathers, they are infested with vermin.

"When young poultry, especially ducklings, appear to have a sore throat and swallowing is difficult, it is the symptom of the large grey lice on the neck.

"If a fowl has a bilious look, with alternate attacks of dysentery and costiveness, it is suffering with liver complaint. A lack of grit, over-feeding, and idleness will cause this trouble.

"A hospital should be a part of every poultry yard. As soon as a fowl gets sick remove it to the hospital, and commence doctoring it at once. The trouble with far too many is that they wait until the disease is in its advanced stages before they commence giving medicine. A very sick fowl is difficult to cure, and when cured it is seldom of value afterward."

NATURAL INCUBATION.

This subject is more or less familiar to everyone, and yet many failures are made every year because of the mismanagement or ignorance of the owners of the hens; hence we consider it advisable to give a brief article here. To hatch strong, healthy chicks, either by natural or artificial means, requires that the eggs incubated upon are fresh, and shall have been laid by strong, healthy stock.

NEST BOXES.

The subject of nest boxes is a much discussed one, opinions differing greatly. We prefer single boxes outside the roosting house, because where hens lay and sit lice naturally congregate, and when the nests are built in the house the whole affair is soon full of them.

Make boxes 15 inches wide, 18 inches long, 14 inches high in front, 9 inches high at back. Make a good, tight, removable top. Cut a door 6 x 8 inches in one corner of front end. No bottom is needed; scoop out a shallow hole where box is to sit, and put in plenty of clean hay or straw. When the straw becomes soiled, place the box with contents a sufficient distance away from the house, and burn the straw while in the box. In this way all lice will be killed. Before adding new nest material give the inside of box a good coat of whitewash or kerosene emulsion.

NESTS AND ATTENTION FOR SITTING HENS.

The nest boxes should be roomy, airy, secluded—in a place secure from intrusion by man or fowl; keep everything clean and free from odors, and always see that a proper dust-bath, grit, water, and feed are in easy reach. Where a number are to be set in one room they can be shut in, and every morning open the doors to nests, and, after allowing them to come off, dust themselves, eat and drink, see that each hen goes back to her proper nest. In a few days they will learn what is expected when the doors are opened, and there will be no trouble. We make it a rule to examine each nest when the hen is off, so that should any eggs be broken the remainder can be washed, and everything put in proper order before she goes back.



A Group of White Plymouth Rocks, The property of The Ontario Agricultural College. These birds are said to be as good as any in America, of this variety.

It is a good plan to set three or more at one time, and then test out the infertile eggs. Often in this way the third hen can be reset, saving thereby much valuable time in the early spring when sitters are scarce. Do not trouble the hens any more than is absolutely necessary, as it is a mistaken idea to be raising them off the nest daily to see how the eggs are looking. Avoid setting hens that are nervous or quarrelsome. Such hens are sure to break more or less eggs, and to trample to death the young as they are hatched. Sitting hens should be fed almost exclusively on corn, though should they tire of it any other food may be furnished.

Before setting the hens, dust the nest and hen thoroughly with insect powder, and repeat the operation at least twice more during the hatch,

the last time about the eighteenth day. Then when the chicks are hatched they will be practically free from lice. When the hen begins hatching leave her box closed, and let her alone till the hatch is finished, and she will hatch more and stronger chicks than if you are always peeping to see how many she will bring off. When all are dry remove to a clean, dry, roomy coop, as far away from the other fowls as possible, in order to avoid their coming in contact with lice.

TREATMENT OF THE HEN AND CHICKS.

While each breeder has his own idea as to the best method of caring for the hen and chicks, the following method has been very satisfactory to us. We use a coop (see Fig. 1) $2 \times 2\frac{1}{2}$ feet, with a tight roof, a removable bottom, and a wire front one

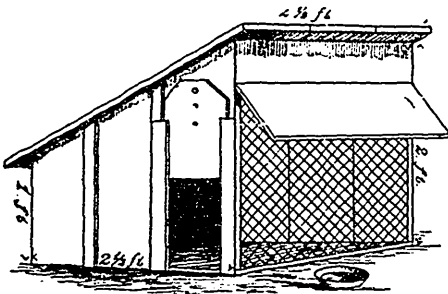


FIG. 1.—Chicken Coop, recommended by Mr. Hege.

inch mesh, with a door in front or side that can be raised high enough for the hen to come out, or just enough to allow the little chicks out. The first day they are kept confined until they are stronger; then for the next few days, after the dew has dried off, the little fellows are allowed to come outside if the weather permits. In case of rainy weather, the projection in front is to keep the rain from beating in. Be sure the floor is always dry. After the chicks are a week old we allow the hen her liberty, being very careful to have all housed on the approach of a storm. The chicks are thus cared for until weaned, when the hen is removed, and the chicks allowed to roost in the same coop until ready to be marketed or divided into smaller flocks or put in larger houses.

Treat the hen and chicks every ten days for lice, and for this we use the following method: Take a mixture of one ounce sassafras oil and six ounces sweet oil; shake well, and at night with the tip of the forefinger put a small amount on top of the head, and on tail-bone above the vent. Few people examine the latter place for lice, but after careful observation you will find that more lice congregate there on the little chicks than upon

any other portion of the body. After they have been thus gone over, we spread a heavy paper on the ground, and, holding each chick over it, give it a thorough application of either Persian Insect Powder or Lambert's "Death to Lice." The hen is treated in the same way. Previous to going over as above, each coop receives a thorough cleansing and a liberal application of kerosene oil, or kerosene emulsion, on the inside. The coops should be whitewashed inside and outside frequently.

FEEDING THE HEN AND CHICKS.

Young chicks just from the shell do not require food for the first twenty-four hours, as they absorb the yolk of the egg only a very short time previous to hatching. After that, we make their first feed of either stale bread, soaked in milk, and thoroughly squeezed, or of hard-boiled eggs chopped fine, mixed with equal parts of oatmeal. This feed is continued for three or four days, five or six times daily, only allowing them just what they will eat up clean. After that we feed oat flakes, cracked wheat, cracked corn, with a morning feed composed of meal, bran, middlings, and ground green bone, the whole seasoned with salt and pepper, and mixed with boiling water or skim-milk. The latter is far the best. Ground green bone, we have found, makes more flesh and stronger, healthier chicks than any other feed; consequently they are allowed all they want. We do not think that little chicks closely confined will thrive so well on a large quantity of the ground bone, but when free range is given they may have a large proportion. A convenient arrangement for feeding chicks can be seen in the accompanying cut (Fig. 2). The coop should



FIG. 2.—Plan recommended for Feeding Chicks.

be four feet square, of lath or wire, and, if preferred, it may be covered. Leave an opening at the lower part, so chicks can run in and out, and keep a feed hopper full of feed in the coop all the time. The object is to have feed where the chicks can reach it at any time, but beyond the hens. It is an excellent contrivance for yards that contain both hens and chicks, as the chicks will be in no danger of being interfered with by the larger fowls.

EASILY-CONSTRUCTED WATER FOUNTAINS.

Always keep plenty of fresh water before them, and fix it in a way that they cannot get wet. If a regular fountain can not easily be procured, a very satisfactory one can be made by hanging any large bottle or jug over a small pan, and allowing the water to come down as it is used from the pan. We use the above entirely.

The cut (Fig. 3) shows another simple way of

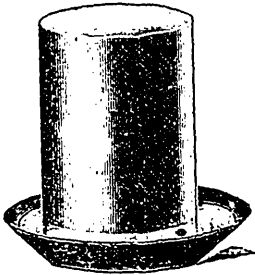


FIG. 3.—An easily constructed Water Fountain.

watering fowls. Take an ordinary pie-pan (one with straight sides), then punch a small hole about one-half an inch from the top of a gallon tin pail with the handle off. Fill the pail with water, and cover it with the pie-pan, then invert the whole, and you will have a splendid drinking vessel, which will give the fowls clean, fresh water at all times.

A swinging water fountain (Fig. 4) may be

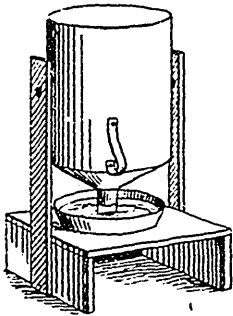


FIG. 4.—A Swinging Water Fountain.

made of tin, galvanized iron, or a jug or tin oil-can may be used. An upright frame of wood or tin may be constructed, similar to the one shown in the illustration. Any tinner can make it. The water in the drinking pan will be supplied from the can, which has a handle for turning the can up to be filled. Simply fill the can and let it drop in position, and it will supply water only as the water is diminished from the drinking pan. A half-gallon glass bottle can be substituted for the jug or tin can.

IMPORTANCE OF REGULARITY IN FEEDING.

After the chicks are weaned, we feed wheat, ground green bone, corn, or anything they prefer, giving them, three times daily, all they will eat. Keep them growing, and by all means feed regularly. The young chicks are subject to certain conditions that do not affect the grown fowls, the most critical period being when they first begin to grow feathers. The demands of the growing chick are much greater in proportion to age and size than those of grown fowls. The omission of one meal, or neglecting to supply water, may so check them as to cause them to remain at a standstill in growth. Hence, in order to keep them growing, the strictest regularity must be observed in feeding. The first food in morning should be given as early as possible, and the last food in evening as late as possible. Always keep fine gravel, coarse sand, or regular grit before them at all times, and if confined in small yards be sure to supply them with sods of grass, or other green food, at all times.

A self-feeder (Fig. 5), for feeding cracked

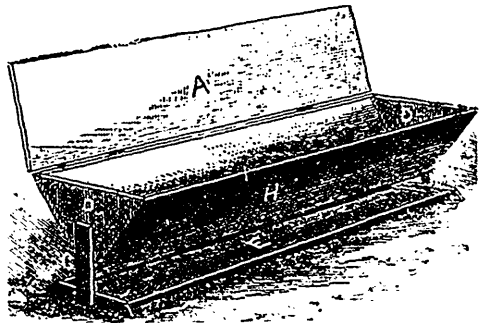


FIG. 5.—A Self-feeder for Young Chicks.

corn or wheat to little chicks, is a convenient appliance, the design of A. P. Luce, New York. It can be made of half-inch boards. H is the hopper, two feet long, five inches deep, four inches wide at top, with an opening one-fourth of an inch wide inside at the bottom, through which the grain may fall. It holds about three quarts of grain. The size can be increased according to the number of fowls to be fed. D D are the ends of the hopper. C C are two pieces, each five inches long and two and three-quarters of an inch wide, nailed fast to the end pieces D D. They hold the hopper up half an inch from the bottom of the trough, to allow the feed to run down through the quarter-inch opening at the bottom of H. E is the trough where the chicks eat. It is twenty-five inches long and two and one-half inches wide, inside measure, and one-half inch deep, inside measure. By this arrange-

ment the food can be kept where the chicks can help themselves at any time.

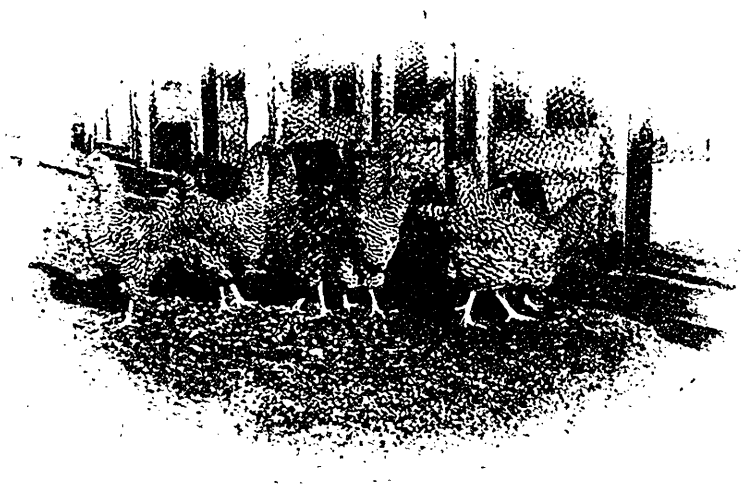
FEEDING GROWN FOWLS.

It is an impossibility for any one to say what quantity another person should feed his fowls for the best results. There are so many conditions to be met that we can give only an idea, and the owner must then regulate the amount.

In the first place, always remember that a variety of food is the main point. Secondly, fowls given free range do not consume the amount of feed that those in close quarters do. Thirdly, different breeds require different amounts of feed. A good plan for the beginner is to weigh a certain amount of feed, then give to the fowls as much as they will eat clean, then weigh the remainder, and a fair idea can be learned, though

pleasure, yet it does no harm at any season of the year to add the above to the mixture.

For evening feed give all they will eat of whole or cracked corn, wheat, or oats, but alternate these and feed very little corn in summer. Ground green bone is superior to either of the above evening feeds for egg production, and where a number of hens are kept, and the owner lives close to a meat market, it is economy to purchase a bone cutter. In feeding fresh bone one must exercise judgment, for if the fowls once tire of it, it is with difficulty that they can be taught to eat it again. It should be alternated with above feeds. Bone is especially valuable during the moulting season, containing, as it does, nearly all the elements needed for the growth of feathers, and for keeping up the vitality of the fowl. Old and young fowls should always have a



A Group of Barred Plymouth Rocks,
The property of The Ontario Agricultural College.

even this plan is often deceptive, as fowls, like men, do not consume the same quantity at each meal. Grown fowls should be fed twice daily, morning and evening. The morning feed should consist of a mixed food composed of corn meal, wheat-bran, and middlings—two parts meal, one part bran, one part middlings—mixed with hot skimmed milk or boiling water. We always season with salt. Do not make it sloppy, but just so it sticks together well, and feed just about one-half what they would eat, so they will exercise themselves for other food. In late summer we add to this about one-fourth the bulk in steamed clover, hay, green oats, or green corn fodder chopped fine; in winter, the clover. During the early summer there is generally an abundance of grass and clover for the fowls to pick at their

liberal amount of clean, sharp grit before them, as it is to hens the same as teeth are to man. When fowls have free range where gravel is plentiful, there is no real necessity for supplying grit; but where there is nothing but fine sand a small box full should be placed before each house. Crushed oyster shells and small pieces of charcoal are very beneficial, and it is surprising what a quantity of these ingredients they will consume. A fat hen lays few eggs, so one must remember not to overfeed. The following we reprint from *The Poultry Keeper*: "A small flock which receives the scraps from the table produces eggs when larger flocks are unprofitable. The fact is plain that the smaller flock receives better feeding. Table scraps are not grains; they contain a variety not found in the feed of large flocks. The

great variety found in table scraps not only provides for egg production, but it promotes digestion and prevents disease. There is one food that the farmer overlooks, which he has in great abundance—clover. It is an essential, as it supplies bulk and is rich in lime and nitrogen. If cut fine, scalded, and mixed with the morning mash it is very beneficial. Feed more clover and note results."

To get eggs in winter the fowls must be supplied with green food of some kind. A head of cabbage, hung up so they can pick at it, is very good, while the scalded clover above mentioned makes a good second. Plant a patch of rye or oats for winter use, and if the fowls cannot be allowed their liberty, cut it up fine and place in their yards. Use judgment in feeding with it,

hand, poultry for the trade of the larger cities should always be dressed before marketing.

PREPARING POULTRY FOR SHIPPING.

The following will give an idea how to prepare them for shipping. The poultry to be marketed should not be fed for at least twenty-four hours before killing, as full crops are liable to sour, thereby injuring them, besides looking badly.

To kill chickens, hang by both feet waist high and then, with a sharp, long blade of a knife, make two cuts across the roof of the mouth at the base of the skull, thus, X. This severs the large blood vessels there, and they bleed to death in a short while. Never cut the heads or feet off, nor draw them for northern markets. Do not wait for the fowls to become cold, or even to stop fluttering, as they are perfectly numb just after



Andalusians,

The property of The Ontario Agricultural College. (For a description of this useful breed of fowls see Mr. Jarvis's article on a subsequent page.)

and together with cleanliness and a variety of food, both health and eggs will be insured.

DRESSING AND SHIPPING POULTRY TO MARKET.

The main object in view in extensive poultry raising is to make the business remunerative, and to do this, especially where eggs, dressed fowls, and broilers are raised, judgment must be used in many ways. Among others should be noted: 1. The market where the stock is shipped must be studied as to time and wants. 2. All stock must be first-class, properly killed, dressed, and packed. 3. All eggs should be carefully tested and assorted as to color and size. Our home markets do not require dressed fowls, and the main idea in thus marketing them should be to have them fat, healthy, and uniform in size. On the other

the arteries are severed, and it is impossible to properly dry-pick them after they hang any length of time. Begin by pulling the wing flights and tail, then the breast feathers, and so on till perfectly clean. Get them clear of pin feathers, as nothing so detracts from their good appearance. Do not attempt to singe the feathers with fire, as it gives them an oily appearance which buyers do not fancy. As soon as the picking is finished lay on a clean surface and carefully wash the blood from the head and the dirt from the feet and legs. After this either again suspend them or lay on a clean, dry bench to cool.

Do not kill a poor fowl, as it is money thrown away, besides proving a disadvantage to the finer fowls. Turkeys, geese, and ducks are killed by the same process as chickens, and always should be

dry-picked. Remember that old turkeys should go to market before Christmas, as after that time the demand in cities is almost entirely for small fat ones.

Geese and ducks sell well if large and well fatted. A little experience is necessary before one understands properly picking the stock without scalding. The advantages of dry-picking over scalding are that a finer appearance is secured, combined with better keeping qualities.

SHIPPING POULTRY.

Always be sure that the poultry to be packed are thoroughly dry and cold, for if cased while the animal heat is still in the body they quickly decompose.

Boxes holding from 100 to 150 lbs. are preferred for turkeys and geese, while barrels do very well for chickens and ducks. Both must have



Prize-Winning Buff Cochon Pullet,
Bred and owned by G. C. McCormack, London, Ont.

some ventilation, which can be secured by cutting a few holes in the sides. Do not pack all kinds of stock in the same package. The neatest way is to wrap each carcass in a piece of brown paper, then pack in snugly, and when the case is full fasten carefully so as to avoid shaking, and mark the number, kind, and weight on each package. In summer shipping quantities of ice must be placed in the barrels or the fowls will be spoiled before they arrive at the markets, but we do not recommend summer shipments of dressed poultry from this State.

WHOLESALE AND RETAIL PRICES.

Prices for stock vary with the season, and also according to quality. Poor and badly picked fowls go begging, hence we caution against killing any but those in prime condition.

"IFS" IN POULTRY RAISING.

If you wish to be successful with poultry do not undertake too much at first. Begin with a few

fowls, and study their habits and wants, and then gradually increase the number.

If after purchasing purebred fowls they do not begin laying at once, don't get impatient; all they want is a little time to accustom themselves to their new surroundings; then if they don't begin you may make up your mind that their feed is not right.

If your hens do not lay, or lay double-yolked or soft-shelled eggs, they are too fat, and more wheat and oats (and no corn) should be fed; also require them to scratch for all grain given them.

If your space is limited keep only a few fowls, and let the few be very fine ones, as it costs no more to feed a prize-winner than it does a scrub.

If you have plenty of space it is best to separate the males from the females and the hens from the pullets, as the growing pullets need more food than the mature hens. If allowed to run together it increases your feed bill and invites disease among the hens, as they will become too fat.

If there are any left-over vegetables, meat, or bread scraps from the table give them to the poultry, as it will pay better than to give them to the hogs.

If your chicks have crooked breast-bones it was no doubt caused by roosting on small poles too early. Allow them to sit down on clean straw until they are over half-grown.

If your young chicks stand around and sleep, it is then quite evident that you are trying to raise poultry and lice on the same amount of food. Look at the little fellows at once, and see if you do not find lice on their heads, under wings, and under and over vent. Get rid of them by the use of remedies already given.

GENERAL POULTRY POINTS.

Erect your poultry-houses long before your chicks are ready for them. Clean the houses at least once a week, and sprinkle lime or land-plaster over the floors.

Do not crowd twenty fowls into a house built for ten. Be sure to have the runs well sown to grass, clover, rye, or millet—the former preferred.

Do not neglect to give the fowls fresh water at least twice a day in winter and three times a day in summer, and keep it in the shade during hot weather.

Do not make the very common mistake of buying "cheap" purebred fowls, for you will regret it sooner or later—*i.e.*, if you are breeding for points or exhibition fowls. The best and cheapest plan is to purchase eggs at from \$2 to \$3 per sitting from reliable breeders, and secure in the

beginning something fine, or purchase young stock in the early fall from these same breeders.

Examine your houses often, and at least once a month in summer sprinkle all over inside with kerosene oil or emulsion. The latter is cheaper and easily made.

Experience is the greatest teacher in the poultry business, and the mistakes serve as mile-posts to keep the breeder on the right road to success. Get all the experience you can, and avoid making the same error twice.

Keep your poultry-houses well whitewashed, inside especially. In cleaning the houses and yards do not forget the nest-boxes, as they probably harbor more lice than any other part of the plant. For nests we prefer boxes about the size of a soap-box, placed outside of the house. They can be kept free from lice by burning the straw in them once or twice per month in summer and every sixty days in winter.

Charcoal broken to the size of a grain of corn is greatly relished by the fowls, as it cleanses the system. Keep it always before them.

Season all soft food with salt. A small quantity of flaxseed meal mixed twice per week in the morning mash is very beneficial. It makes the plumage glossy, and tends to keep the comb and wattles in good condition.

Have a good dust-bath or band for the fowls always, and provide a plentiful supply of sharp grit for them if they are confined to small runs.

Keep all feeding troughs and drinking-vessels wholesome and clean.

When the fowls are moulting they require more food, or rather stronger food, in order to grow the new feathers. Meat scraps and ground green bone are excellent, while a little linseed meal in their food daily will hasten the process and make the hens lay sooner.

It is better to prevent disease among the fowls than to attempt to cure them after the disease is found. With proper attention disease will be scarce, though often it does come when the cause is not apparent.

For the poultryman to succeed he must be progressive, industrious, and energetic—quick to accept new ideas, and, if worthy, put them into practice. He must keep everlastingly at it, and manage the business the same as he would any other, giving it the same attention that is required to conduct any other business successfully. There are people who would fail at any work; but if the poultryman will conduct his business in the same way as a successful farmer or merchant does his, he will make far more money on the capital invested than either of the others.

THE BREEDING, FEEDING AND MATING OF GESE.*

By SAMUEL CUSHMAN, late Poultry Manager of the Rhode Island Agricultural Experiment Station.



MR. SAMUEL CUSHMAN, of Pawtucket, R.I., was for five years in charge of the poultry division of the Rhode Island Agricultural Experiment Station, Kingston, R.I., and he resigned his position only very recently. The bulletin from which the following extract has been made is one in which Mr. Cushman detailed at length the results of three years' experiments with geese, conducted with a view to ascertain the best methods of geese-raising. Geese production is a very important industry in Rhode Island. The practice there is for the dealers to buy young geese, and to fatten and prepare them for the New York and Boston markets. So successfully is this done that Rhode Island geese bring more in these markets than those from any other part of the country. These dealers annually buy large quantities of geese in Canada, especially in Prince Edward Island, to fill their orders. Were the methods of fattening geese well understood by the farmers who raise them, there would be no need of this middlemen's intervention, and the farmers' profit would then be greatly increased. Geese production in Canada is only in its infancy, and FARMING would advise its readers to give special attention to it. No kind of fowl pay better when they are properly handled. But as they differ very much in their habits from other fowls, they are, as Mr. Cushman points out in his bulletin, the least profitable of all poultry unless their nature is understood and their require-

Reprinted from a recent bulletin issued by the Rhode Island Agricultural Experiment Station, by the kind permission of Charles O. Fjarg, B.Sc., Director of the station.

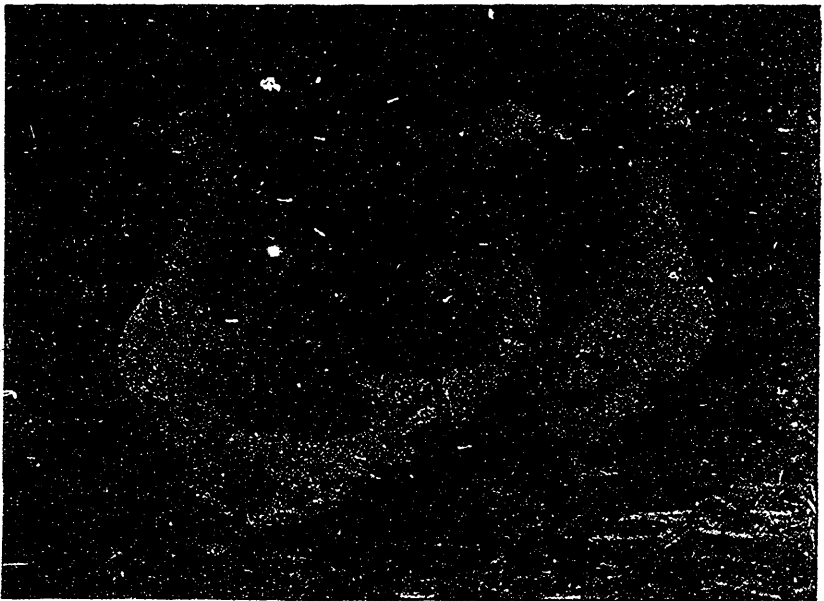
ments met. However, as they are the hardiest of all domestic fowl, requiring less attention than hens, and little or no outlay for buildings, and as the old geese do well in all weathers with nothing in the way of shelter to run under (usually disdaining this), and as they best thrive on wet, marshy land where hens and turkeys would not thrive at all, it is evident that the production of geese might just suit the conditions of some farmers, when the production of hens or turkeys would be unsuitable to them. Under suitable conditions geese production is very profitable. Mr. Cushman informs us that with expert geese-raisers geese pay better than sheep; and that under good management they pay as well as dairy cattle; and, of course, for their production a very much less investment of capital is required, and a very much less command of money for running expenses. Indeed, for a man with small means they are the ideal stock to keep. — Mr. Cushman is at present devoting himself to the treatment of poultry topics before farmers' institutes, agricultural schools and colleges, etc., and to writing on poultry matters in the public press. His experience covers geese, turkeys, ducks, and hens. One of his subjects is "A Rhode Island 3,000 Hen Egg-Farm, and how it has been run for many years;" another, "Artificial Duck Raising: How crops of from 5,000 to 20,000 young ducks are raised in one place in one season;" another, "The Best Means of Improving Common Farm Poultry." As Mr. Cushman is an experienced apiarist also, having had charge of the Rhode Island Experiment Station apiary work for seven years, he would be a good man for some of our institutes to get as a lecturer, when the special discussion of poultry and apiary topics is needed.

There is so little reliable information published on raising geese that the beginner, unable to secure the advice of an experienced raiser, is

usually at sea in regard to how to proceed. Misled by what he reads, he is apt to conclude, after one or more seasons, that geese are unprofitable and to give up keeping them. We therefore give the following hints, from knowledge gained from the failures as well as the successes of several seasons.

Although old geese lay a greater number of larger eggs, and are more reliable breeders, it is not always best to attempt to buy old geese. Owners are unwilling to part with well-trying breeders that are really profitable, as it pays better to keep them than to sell them at what would be considered a reasonable price. Quite often the old geese offered for sale are those found to be unprofitable. It is therefore usually better policy and saves time to buy young geese before they are killed for market, rather than to attempt to secure any number of old geese.

Most breeders dress their goslings for market or sell them to fatteners in June and July, when they bring the most, considering the time and feed given, rather than grow them to maturity and take the chance of selling them at a slight advance for breeding purposes; therefore, it is best to place orders in the spring or early summer, for young stock to be delivered in the fall. Young ganders are better for breeding than young geese. Ganders not over five or eight years old, mated to old geese, give the best results. Young



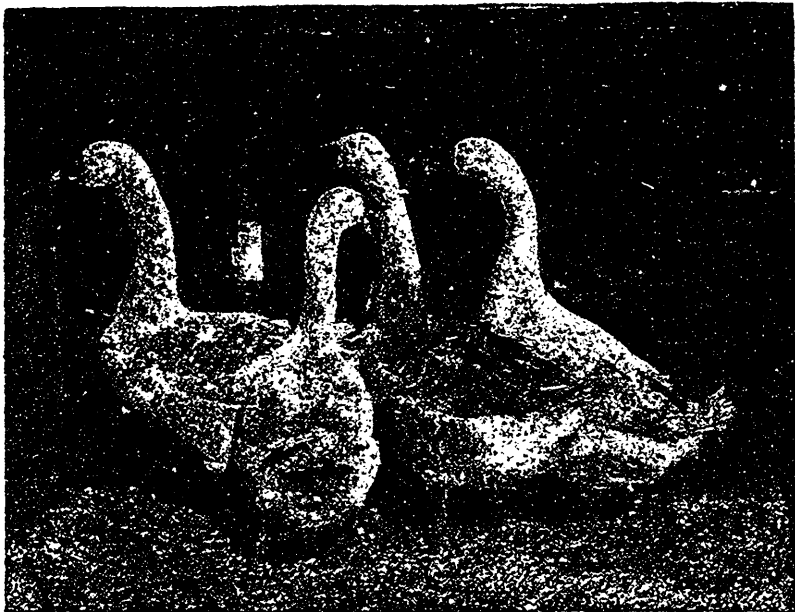
Pure Toulouse Geese (young).

Raised at the Rhode Island Agricultural Experiment Station. Mr. Cushman thinks that Toulouse Geese make larger and heavier birds by Christmas time than Embdens. They also lay a greater number of eggs than the Embdens, but they are poor mothers



Pure African Geese (adults),

Raised at the Rhode Island Agricultural Experiment Station. Mr. Cushman says that a number of the most extensive and progressive geese-raisers of Rhode Island prefer African Geese to either Embdens or Toulouse, claiming that they are more profitable, that they lay a larger number of eggs, and that their goslings grow faster.



Embden-Toulouse Cross Geese,

Raised at the Rhode Island Agricultural Experiment Station. Mr. Cushman thinks that this cross is the best all-round cross for general purposes, for both early and late markets, and especially for the production of large geese for the Christmas or New Year's market. They are large, hardy, and when dressed present a fine appearance, being white or yellow. The Toulouse-Embden cross is a much less desirable bird when dressed.

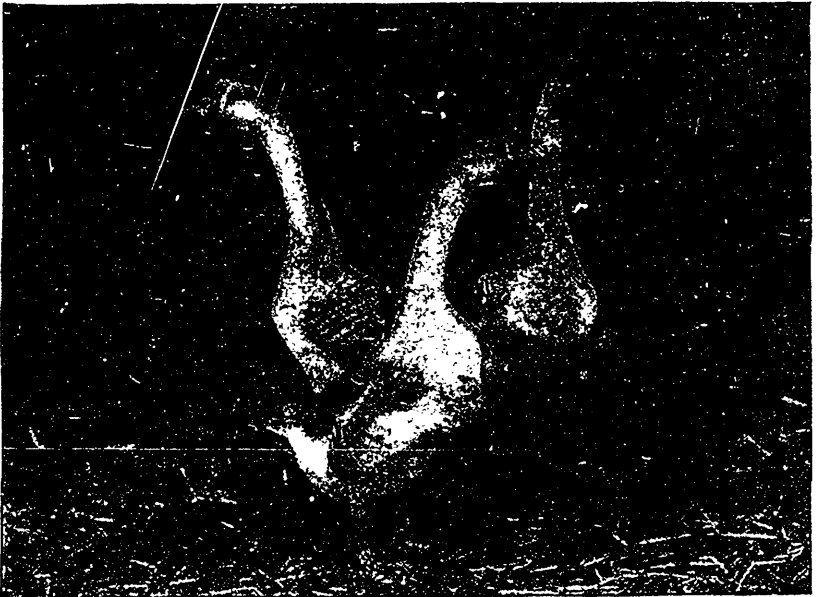
geese do not lay as many fertile eggs and produce as many goslings the first breeding season as they the second season. If geese, whether young

or old, are changed from one place to another after January 1st, they are liable not to breed well that season, and they breed better the third sea-



African-Toulouse Cross Geese,

Raised at the Rhode Island Agricultural Experiment Station. This cross produces birds at Christmas time, next to the Embden-Toulouse in weight, and heavier than pure Toulouse, pure Embden, or pure African. When dressed they are dark, but not so dark as pure Toulouse, and not so hard to pick as pure Africans.



Pure Brown China Geese (young),

Raised at the Rhode Island Agricultural Experiment Station. Brown China Geese are prolific layers, and their ganders mate more quickly than Embdens, Toulouse, or Africans, and are prolific and sure breeders. They should be dressed before fall, in order that they may pick well. If left too late, they are very hard to pick. The individual birds are smaller than Embdens or Toulouse.

son they are on a place than they do the second season, all other conditions being equal. Therefore, breeding geese should be secured as early in the fall as possible, not later than October, to ensure the best results. This gives them sufficient time to become acquainted with their new surroundings and feel thoroughly at home before the breeding season. It is also well to have at this date all birds which are to be mated penned or yarded by themselves. Breeding geese should be kept active and moderately thin in flesh through the winter by light feeding, and by allowing them free range, or such facilities for swimming as will induce them to take much exercise. If deprived of the latter, they must not be fed such fattening food. They require no houses or protection from cold or storm, and seem to prefer to stand out exposed to the wind in midwinter rather than seek the protection of an open shed except during a heavy snowstorm.

Geese are grazers as much as cows, and can be spoiled by too much grain. To insure the fertility of eggs, access to a pond, puddle, or tub of water set level with the ground, as well as an abundance of green food, is of the greatest importance.

African and Brown China ganders mate more

quickly than other kinds, and are the most prolific and sure breeders. Toulouse ganders are sluggish, slow to mate, and as breeders are the least reliable. Toulouse geese are great layers and some specimens do not offer to sit. Embden geese are more inclined to sit than Toulouse, and make better mothers, but lay fewer eggs. Brown China and White China geese are very prolific layers. Very early laying is not desirable, as goslings hatched before grass is plenty do not do well and cost more than they bring. Goslings do best when put out during the day on short grass with water to drink, no other food but grass being given for two days, and then a light feed of scalded cracked corn three times daily in addition to the grass. The supply of grass should always be ample and the water dish should never become empty. They should always have an opportunity to get into the shade, or they are liable to be overcome with the heat of the sun. If hurdled on fresh green sward daily and kept in a rat-proof house at night, they grow more uniformly, and less are lost than if brooded by geese or hens. They should be managed so that they will be active and eager for their food most of the time.

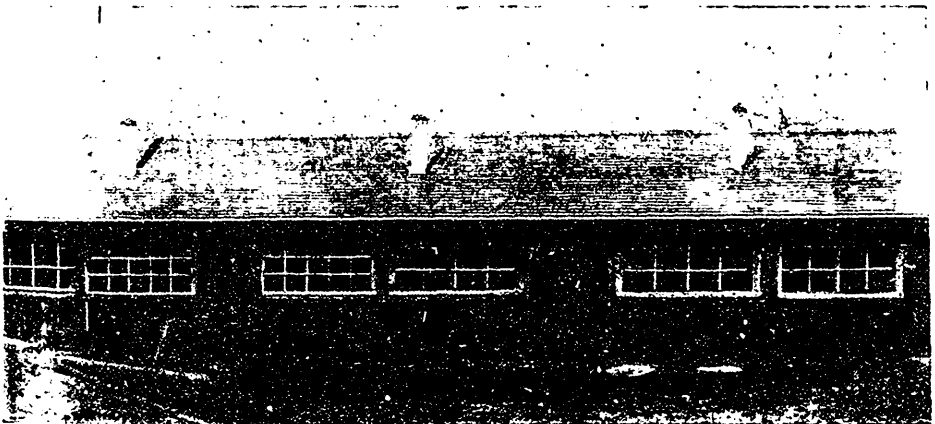
A MODEL POULTRY HOUSE.

BEING AN ACCOUNT OF A WELL-DESIGNED, NEWLY-BUILT, INEXPENSIVE FARMER'S HENHOUSE, FOR HENS KEPT FOR EGG-PRODUCTION.

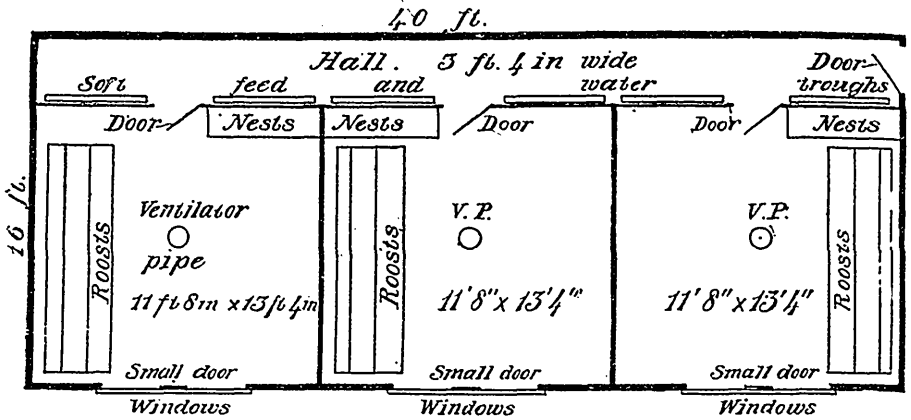
By GEORGE HARCOURT, B.S.A.

Messrs. F. & D. Mulholland, of Bedford Park, near Toronto, have recently built a henhouse which, for cheapness and convenience, promises to be an ideal henhouse for the farmer. It is the intention of this firm to go somewhat extensively into

the production of winter eggs, and, as they were in need of a henhouse, they decided to build a good one. They sought the best advice they could get, and planned their house with care. At the same time they built economically. The lum-



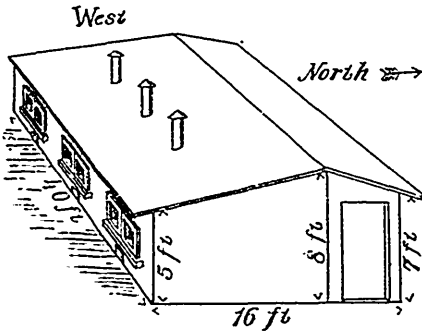
F. & D. Mulholland's Poultry House—Exterior View.



ber used in the building was taken from an old house, and all the work for it was done by themselves.

THE HENHOUSE.

The building is 16 feet wide and 40 feet long, and rests on 6-inch sills, which are raised a few inches from the ground. The height of the studding on one side is five feet, on the other side it is seven feet. The ridge of the roof is supported by the studding which forms the division between the hallway and the pens; it is thus not in the centre of the building. These studs are eight feet high, and the long slope of the roof is to the south. The hallway, or feed alley, runs along the north side; it is 3 feet 4 inches wide. The rest of the room is divided into three pens, each 11 feet 8 inches by 13 feet 4 inches.



THE WALLS.

On the outside of the studding three thicknesses of tar paper were tacked on, laid horizontally; then the outside sheeting. On the inside of the studding two layers of tar paper were tacked; then the inside sheeting.

THE FLOOR.

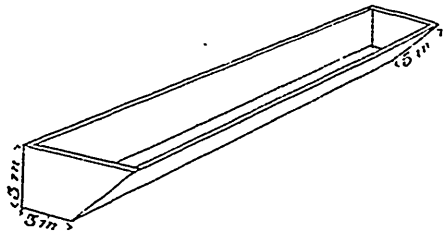
The floor is good inch lumber laid on the joists.

THE ROOF.

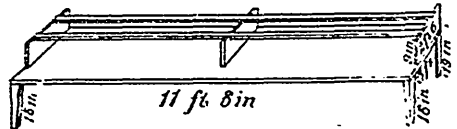
The roof boards are nailed close together; two layers of tar paper are then laid on the boards; then the shingles are laid on top of the paper.

THE NESTS.

A doorway opens off the alleyway into each pen, in each middle of the pen. At each side of these doorways, on the pen side of the alleyway



partition, are the nest boxes. They rest on platforms 18 inches wide, placed 15 inches from the floor. There are five nests in each nest box. These nest boxes have no bottom nor back; they are built so that each forms one piece, and are easily removed for cleaning, etc. The end pieces of these nest boxes are one foot wide; the front face is one foot high, and the back edge two feet. The partitions in it forming the five nests are of the same size. The face and top of each box are nailed on the dividing and end pieces. It will be

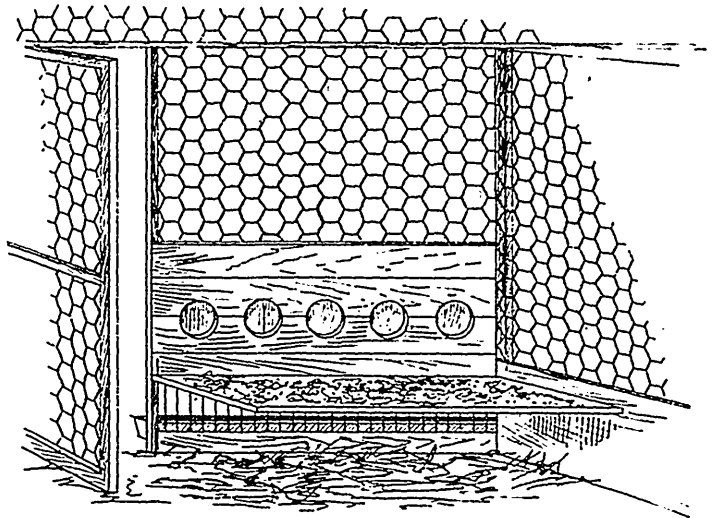


seen that the top is so steep that when the nest box is in place the hens cannot roost on it. An opening eight inches square, with round corners at top, is made in the front board for an entrance

to each nest. When the nest boxes are put in place on the platform, there is five inches of "alighting" space in front of each nest box, as the boxes are 13 inches and the platform is 18 inches wide. The alley partition is open below the nest-box platform, but where the nests come against it it is boarded, and round openings five inches in diameter are made in it, so that the eggs can be removed from the nests by a person in the alley without his having to enter the pens. Swing covers are placed over these openings, which can be easily turned aside when it is necessary to search for eggs.

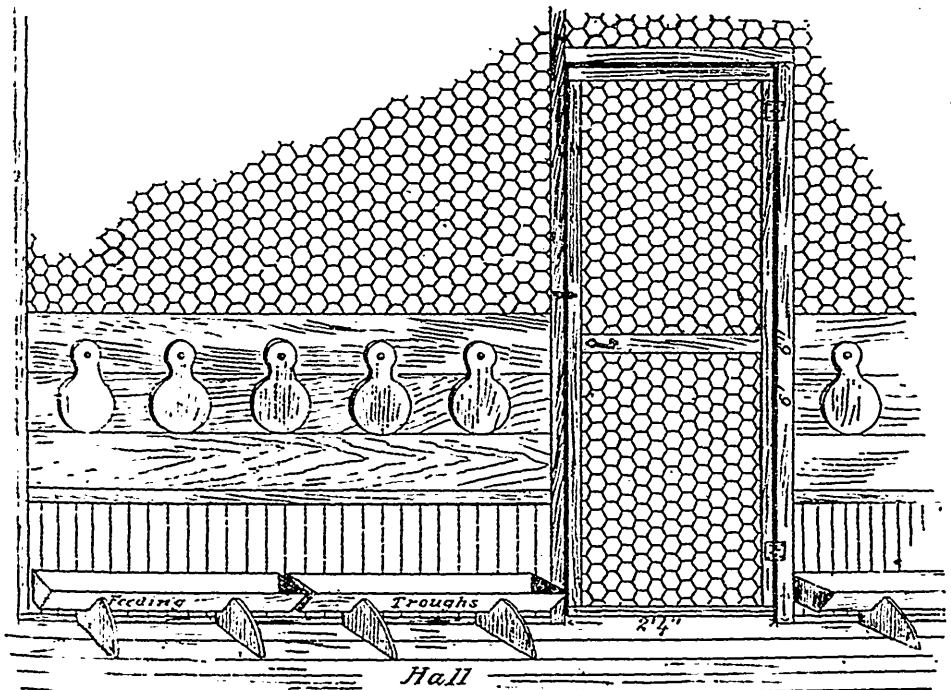
THE FEEDING TROUGHS.

The space from the nest-box platforms to the floor in the alleyway partition is not boarded, but it is closed by means of iron rods set upright, two and one-half inches apart. The hens reach

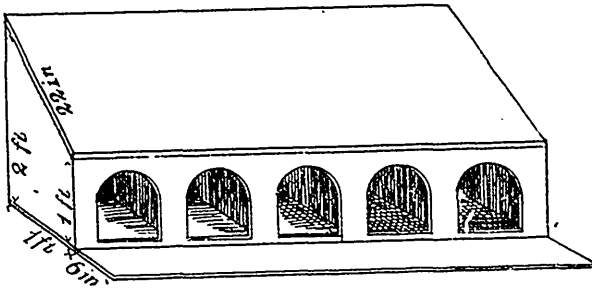


Interior of Poultry House, Showing bottom of nest-box, and hand-holes through which the eggs may be taken out from the hallway or feed-alley; also the wired opening beneath the nests, and the feeding-trough in the hallway. The nest-box itself is removed as if for cleaning the nest.

through between these rods to the feed troughs, which stand in the alleyways close to the partition. These feed troughs are of galvanized iron, about three inches wide at the bottom, five inches high on the side away from the hens, and three inches high on the side next to them. They are raised a little from the floor with the intention of



Interior of Poultry House from Hallway, Showing the swing covers for the nest holes; also the feeding-troughs in the hallway.



Nest-box for Poultry House,

The nest-box is supposed to be in position, resting on the nest-bottom.

preventing the hens from filling them when scratching. This, perhaps, is the weakest arrangement in the plan, because the hens are bound to fill the troughs when scratching. They should be raised higher yet, and the rods should end in a board forming the base of the partition, about six inches high, or just high enough to come up to the front edge of the feeding troughs.

OTHER DETAILS.

The roosts are on low stands easy of access.

The partitions above the nest boxes are of wire netting; so are the cross partitions above the base boards of the partitions. All the wire nettings extend to the roof. The base boards of the partitions are about 18 inches high.

OUTSIDE OPENINGS.

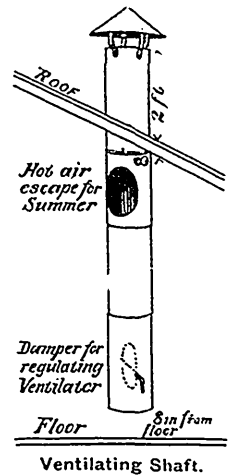
The entrances from the outside for the hens are in the south wall, *i.e.* at the back of the pens. On the inside they are closed by a door that slides up, and on the outside there is a door on hinges, which can be closed during very cold weather. The size of these entrances is 10x12 inches.

THE WINDOWS.

In the south wall of each pen there are two large windows, each 2 feet 4 inches deep by 4 feet 7 inches wide. The frames were old ones, taken from an old house. It is intended to put on double windows.

VENTILATION.

Three galvanized iron ventilators, 5 inches in diameter, carry out the foul air. These pass out through the roof and come down to within about eight inches from the floor. Each ventilator has a damper near the lower end to regulate the flow of air, and a hole just below the roof to allow the heated air to escape in summer, and a flange around it at the roof to prevent the rain from entering.



WATER.
Water is brought into the alleyway by an underground pipe from a tank in the barn.

BANKING.

The building is well banked with earth so that the floor will not be cold.

REMARKS.

The poultry building, as here described, is a remarkably good one. The Messrs. Mulholland believe that it will make dry, warm, and well-ventilated quarters for their hens, and in this opinion we quite agree. They reckon that it will afford accommodation for about 75 hens. We did not notice any dust baths at the time of our visit; but the building was scarcely completed then. Of course a dust bath should be provided for each pen. We think, too, it would be better to have the hens' entrance to their nests covered in, so as to make them dark and thus prevent egg-eating. This could be easily done by having the roof of each nest-box project about 6 inches, and a front edge built up from the nest-box platform so that when the nest-box was placed in position, its front edge and the roof projection would meet. We think, also, that it would be better to have the bottom of the ventilator pipe *extensible*, so that the opening may be very near the floor, or higher up, as may be found desirable. This is the plan adopted by many modern poultry men. We think, too, that it might be desirable to have the base boards of the cross partitions higher than 18 inches, say 30 inches. In case, then, at any time it might be necessary to keep in adjacent pens fowls that had a tendency to fight, the height of these dividing base boards would make fighting impossible.

NIAGARA DISTRICT FRUIT EXPERIMENT STATION, St. Catharines, December 12th, 1896. The December FARMING is a capital number, and does you great credit. Yours very truly, M. BURRELL.

PROFESSOR J. H. REED, V.S., Guelph, Ont.: "I consider FARMING a valuable journal, and that any farmer will be well repaid who subscribes for it. One cannot understand why they do not all subscribe for it." December 1st, 1896.

THE MARKETS FOR NEW-LAID EGGS IN WINTER AND HOW TO OBTAIN THEM.

By A. G. GILBERT, Manager Poultry Department, Experimental Farm, Ottawa.

MR. A. G. GILBERT, manager of the poultry department, Central Experimental Farm, Ottawa, was born in Georgetown, Demerara, of Scotch parents. At an early age he was taken to Scotland, and was educated in Glasgow. On



leaving school he returned to the West Indies, where he remained for two years, and then came to Canada. The most of his life was spent in journalism, in the different positions of reporter, correspondent, and editor. Ill-health in 1881 resulted in his accepting a position in the Department of the Interior, Ottawa, and at that date his study of poultry culture began. He resided three miles from the city in a cottage, with surroundings well suited to poultry culture. New-laid eggs in winter at that period may be said to have been an unknown article in Ottawa, and, indeed, in all of the eastern cities. Mr. Gilbert, who began his poultry work with Plymouth Rocks, soon discovered that by intelligent management, energy, and perseverance poultry-keeping could be made to pay, and pay well. But his present wide range of experience was not gained in a day nor in a year, and doubtless it is all the more valuable on that account. Mr. Gilbert tells how, in one season, he hatched out by means of hens 165 chickens, and raised 163 out of that number. In his private business he used to try to obtain as many eggs in winter as possible, and his Plymouth Rock cockeres were famous for early maturity and large size. In 1887 Mr. Gilbert was appointed to his present position, and his work since that time has been given to the public in the annual reports and bulletins issued from the Central Farm. Mr. Gilbert takes a great interest in farmers' institutes, and nothing pleases him better than to be talking to an audience of farmers on poultry topics. And he has the pleasant satisfaction of knowing that his "poultry

talks" are very popular with farmers, and, as a consequence, at farmers' institute meetings his services are always highly appreciated.

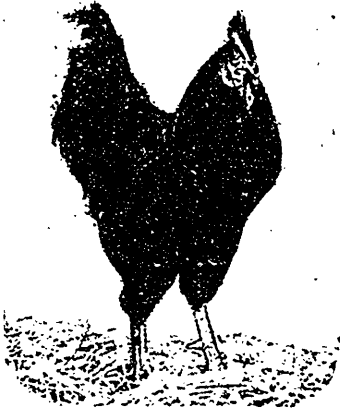
The great demand for new-laid eggs in the larger cities and towns of the Dominion during the winter season offers opportunity to the farmers to dispose of their wares at highly remunerative figures. Prices range from twenty to thirty-five cents per dozen, according to distance from, or near location to, the consumer.

The farmer who sells the new-laid eggs directly to the city householder receives a better price than he who deals with a middleman. Probably the greater majority of farmers, by force of circumstances, have to sell to store-keeper or middleman, and it is but right in such cases that the latter should have his fair margin of profit. But there are a number of producers in the neighborhood of cities and large towns who regularly come to market, and it is those exceptionally favored individuals who have the chance to seek out and obtain good customers for new-laid eggs and choice poultry at tip-top prices. The resident in the city is frequently heard to wish for a reliable producer from whom he can obtain the articles named. Again is heard the desire expressed by the farmer for a steady customer who is willing to pay full value for the

superior articles. It is to be regretted that both do not come together more frequently.

Equally singular is it that the comparatively low-price winter new-laid eggs of the central and more western portions of Ontario do not find their way in greater numbers to the high-price Montreal market. Eggs are cheaper in the localities named because climatic conditions permit of their production in greater quantity and at less cost than in the east. While in Montreal last spring, a leading grocer informed the writer that he had paid, from the middle of December to the 1st of February previous, as high as *forty-five to fifty cents* per dozen for strictly new-laid eggs! In the neighborhood of London, Ont., Stratford, and other places in that locality, the new-laid product at the same time was sold to the retailer at twenty cents per dozen, perhaps less.

After addressing meetings in different parts of Central Ontario throughout the winters of 1894-95 and 95-96, and mentioning the high prices quoted above, the writer put numerous enquirers into direct communication with Montreal grocers, to their mutual benefit. It actually seemed a



Black Langshan Cock,

The property of the Central Experimental Farm. Pronounced by competent judges to be a capital bird and an excellent type of the breed.

matter of astonishment that such high prices prevailed.

We must now be prepared to meet the statement that if a steady flow of new-laid eggs sets in to the Montreal and other high-price markets prices will decline. And what if they do? Eggs at forty, forty-five, and fifty cents per dozen are a luxury that only the rich can indulge in. As a matter of fact, with proper knowledge of management and feeding, new-laid eggs may be sold at half the value of the lowest figure quoted, and there remain a handsome profit to the producer. May it not be that the western farmer finds a satisfactory margin of profit in his eggs at twenty cents per dozen? May not this have something to do with the paucity of numbers sent to the high-price eastern market? The



Colored Dorking Cock,

The property of the Central Experimental Farm.

president of a leading western farmers' institute informed the writer two winters ago that he sold all his new-laid eggs in London, Ont., at twenty cents per dozen, and there "was plenty of money in them for him at that price." Here was the candid admission of a farmer who kept and successfully managed a number of fowls.

But what about the large number of farmers in the neighborhood of the cities and towns of the colder districts and high prices? Are they indifferent, or do they not know how to take advantage of their opportunities to make their poultry pay? If they, or others in any part of the country, are not acquainted with up-to-date methods, the following brief instructions will enable them to produce the eggs so much in demand:

(1) Utilize as much as possible of the waste of the farm in egg production.

(2) An effective ration is a well-balanced one. Much of the waste can be used in preparing effective rations.



White Wyandotte Hen,

The property of the Central Experimental Farm. This bird is very typical of the breed, but unfortunately she was a little frightened when photographed and so her position is too low and "squatly."

(3) See to it that your laying stock are in robust health. Keep no laying hens over two years of age.

(4) Shorten the moulting period, or time of non-production, as much as possible. To do so give the laying stock during summer a run in the fields, where they may obtain insects, grass, and clover. Feed grain morning and evening. Keep the poultry house free from vermin. Have the stock over their moult and laying by the end of October. Meat in some shape is invaluable at this time.

(5) Have the poultry house as comfortable as possible. If it is too cold the food will be drawn upon to supply animal heat. A board floor is

best, and on it litter to the depth of six, eight, or ten inches may be placed. The litter may be composed of chaff, straw, dry leaves, etc.

(6) Keep the laying stock in constant exercise. Throw all their grain feed into the litter on the floor and make them search for it. A good plan is to hang a cabbage from the ceiling high enough to make the hens jump to get it.

(7) For *morning ration* put the waste of the table and kitchen in a pot. The waste will likely be composed of potato and other vegetable parings, bits of meat, bread, uneaten vegetables, etc. Boil all together and mix in ground grain of any kind, so that the mess will be "crumbly" and not *slippy*. Put a pinch of salt, and dust a *modicum* of black pepper, into the mess. Feed it warm, but not too hot.

(8) Feed just enough of the mash to *satisfy*, but by no means in such quantity as to *gorge* the layers. This is a rock on which many are wrecked. After feeding the mash, which should be given in a narrow (two and a half inch by four



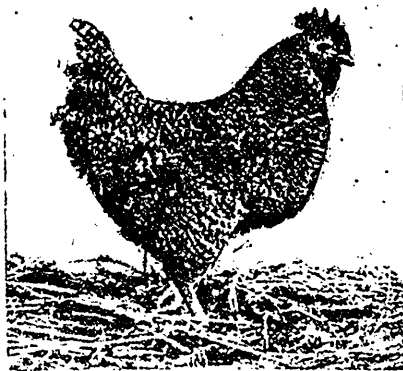
White Plymouth Rock Hen,

The property of the Central Experimental Farm. In the photograph the bird is crouching too low to make a good picture.

feet long) trough, nailed or screwed on to side of the house or pen, scatter a couple of handfuls of grain or grass seed in the litter on the floor to start the hens scratching, and keep them busy all day if possible.

(9) Where cut green bone can be fed, let it be given in lieu of the mash three mornings of the week. If cut bone is not convenient, boil beef, or sheep heads, break them up, and feed them in proportion of one pound to every fifteen or sixteen hens. Feed cut green bone in same quantity. There are mills, manufactured in Canada, at a cost of \$7 and upwards, wherewith the bones may be cut up.

(10) If vegetables are regularly supplied no *noon ration* will be necessary. At most give only enough oats to keep the hens busy.



Barred Plymouth Rock Cock,
The property of the Central Experimental Farm.

(11) For *afternoon* or *last ration* of the day give a generous feed of whole grain, so that the crops will be well filled, for a long night fast is ahead. This grain should also be thrown among the litter, in order to make the hens search for it.

(12) Drinking water should be supplied regularly. If it freezes the chill should be taken off several times during the day. A fountain or vessel with a narrow lip is best, for the fowls should not dip their wattles into the water while drinking.

(13) Supply *grit* in some shape. Grit is really the means whereby the hen grinds up her food in the gizzard. It may be given in the shape of sharp gravel, broken oyster shells, broken delf, or some of the many preparations of limestone, etc.

(14) Do not forget, while feeding to get the egg, to furnish *lime*, in some form, to make the shell. When running at large the hen supplies herself with all the essentials necessary to make the egg and shell, grind up her food, and keep herself in



Aylesbury Ducks.

The property of the Central Experimental Farm.

good health. It should be the aim to make the conditions of artificial existence as like those of the natural as possible.

By carrying out the above instructions eggs will be had in plenty in winter. See that the layers do not go into winter quarters too fat, or infected with lice. Put a dust bath into the house, or into each pen, so that by its means the hen can keep

herself free from vermin. Use plenty of clover hay. Cut it up in quarter inch lengths, and steam it. If the hens will not eat it by itself, mix it with the soft feed or mash. As before said, the rations need not be expensive. Use intelligence, observation, and a little energy, do not over-feed, and you will certainly make money out of your hens at a time when their product is most valuable.

FOWLS: THE SELECTION OF BREEDS, AND THEIR CARE AND MANAGEMENT.*

By L. G. JARVIS, Manager and Lecturer, Poultry Department, Ontario Agricultural College, Guelph.

MR. L. G. JARVIS, Lecturer on Poultry and Manager of the Poultry Department of the Ontario Agricultural College, Guelph, was born within three miles of the city of

Fowls, as now bred, are divided into several classes. Of these there are three that I shall speak of here: (1) The Asiatics; (2) the Americans; (3) the Mediterraneans.


THE ASIATIC CLASS

The first class I shall speak of is the Asiatic. It is composed of the following varieties: Light and Dark Brahmas; Buff, White, Black, and Partridge Cochins; and Black and White Langshans. All these varieties are feathered on the shanks and feet; all excepting the Langshans have yellow skin; and all the varieties lay dark-colored eggs. They are all known as "sitters," that is, as fowls that hatch and rear their own young.

BRAHMAS AND LANGSHANS.

Of the Asiatics, the Brahmas and Langshans are considered the best layers, and also the best table fowls. They are better winter layers than summer layers. They will stand confinement better than most breeds of fowls. They are rather slow in growing to maturity, but when they are matured they are the heaviest of all varieties of fowl. Individual strains of these varieties have made good records in egg production, especially so in the case of the Light Brahmas. By selecting from year to year eggs from the best laying hens, and disposing of the drones, good laying strains of these varieties have been produced, and in some cases they have become non-sitters. At the late Fat Stock Show held in Guelph, prizes for the largest and best dressed chicks of 1896 went to *Brahma chicks, and fine specimens they were.*

A great many people would remark while viewing these dressed fowl, "Why can we not have chicks that size, and dressed in that way, exposed for sale in our markets and in our



London, Ont. For many years Mr. Jarvis was Director and Superintendent at the Western Fair, London. For nearly a quarter of a century he has been a well-known judge of poultry, and has acted in that capacity at all of the leading exhibitions in Canada, and also at some of the largest in the United States, including the World's Fair. Mr. Jarvis is considered one of the best all-round judges of poultry in America, and competent to judge all varieties of both land and water fowl. He was appointed manager of the poultry department of the O.A.C., Oct. 1st, 1894. Besides looking after the practical working of his department, he delivers lectures to the students on the care and management of fowls, the origin and characteristics of the different breeds, and on the various points to be observed in judging the utility classes. Artificial incubation and proper methods of feeding artificially reared fowls are also taken up by him and illustrated by actual practice.

* Mr. Jarvis' article on poultry and poultry management, though apparently very complete, is not as complete as he intends to make it, and, therefore, readers of *FARMING* will have the pleasure and advantage of seeing the remainder of the article in the next or some other very early number of the magazine.

PLYMOUTH ROCKS.

The Barred Plymouth Rock is a cross between an Asiatic variety and the Dominique. It has the advantage over the Asiatics in not having feathers on shanks or feet. Their points of excellence gained for them a great popularity even at the very beginning, and all along down to the present time there has been no relaxation of sentiment or enthusiasm in their behalf.

During the last quarter of a century Plymouth Rocks, as a whole, have developed to be one of the most popular breeds of fowl in America. We find but little difference, so far as utility is concerned, between the three varieties above named, although the Buff variety is hardly as well developed as the others, being of a later origin. Yet the Buff Rocks have many admirers, especially among those who fancy the buff color.

WYANDOTTES.

The Wyandottes had their origin in experiments, as have had all new breeds. An Asiatic variety and the Hamburg were used in the origin of this useful breed of fowl. The size, shape, and general make-up of the Wyandottes cause them to be universal favorites as "broilers" and "roasters." Their flesh is sweet, juicy, and tender. The male Wyandotte, when fully matured, will weigh from 8 to 9 lbs., and the hen from 6 to 7 lbs., live weight. The Wyandottes are good layers and excellent mothers, and they are easily broken up when broody. Their eggs



Indian Game Cockerel,

The property of The Ontario Agricultural College.

stores?" The time will come, and that shortly, when nothing but a first-class article, in good condition and properly dressed, will find a sale on any market or in any store. But now how often do we find exposed for sale chickens that are nothing but skin and bone, and to the expert known to have been diseased, and yet the would-be seller grumbles because he can realize only a small amount for them. Rest assured of this, that with good stock you will always find a good market.

In the case of all varieties in the Asiatic class, the fowl should be disposed of before the moulting season of the second year arrives; for after that time they drop off in egg production, and their flesh becomes tough, or not as sweet and juicy as it once was.

THE AMERICAN CLASS.

The second class that I shall speak of is the American. In this class are the following varieties: Barred, White, and Buff Plymouth Rocks; Silver, Golden, Black, White, and Buff Wyandottes; Black, White, and Mottled Javas; and Dominiques.

All these varieties, with the exception of the Javas, have yellow skin.

This class (the American) may be considered the *general purpose class*, and especially so for the farmer. We have found all the varieties mentioned to be both good egg and good meat producers. All lay dark-colored eggs of a fair size. Many of the varieties of this class have made excellent records as winter layers, in this respect comparing favorably with the Leghorns, and, in my experience, doing better.



Andalusian Cock,

The property of The Ontario Agricultural College.



Light Brahma Cockerel, Hen and Pullet,
The property of The Ontario Agricultural College. A capital photograph of a fine trio of birds.

are hardly as large as those of the Javas or the Rocks.

JAVAS.

We have found the Javas, especially the white variety, hardy and excellent layers, their eggs being the largest of those of all varieties in the class. The fact that the color of their skin is white, and that their legs are dark, is somewhat against them as a market fowl; nevertheless, their flesh is of the finest quality. They attain a large size, larger, indeed, than that of the Wyandottes, and fully as large as that of the Rocks.

DOMINIQUES.

The Dominiques are in color of plumage very much like the Barred Rocks; the main difference between these two varieties is in shape of the comb. The Dominiques are a useful kind of fowl, and I often wonder why they are not more popular.

MEDITERRANEAN CLASS.

The third class that I shall mention is the Mediterranean. It is composed of the following varieties: Brown, White, Black, and Buff Leghorns; Black and White Minorcas; Black Spanish; and Andalusians. If egg production alone is to be considered the all-important point, then I would say to any intending breeder, select a variety from the Mediterranean class. The Mediterraneans are all non-sitters and great foragers.

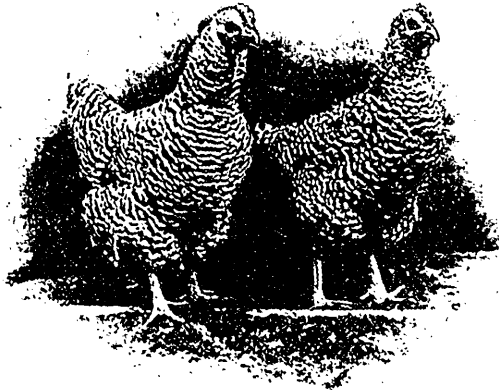
THE BLACK SPANISH.

The Black Spanish, the Andalusians, and the Minorcas lay the

largest eggs of all varieties of fowls. But I do not consider the Spanish as hardy as the other varieties named, and I would not recommend them as a profitable breed for the farmer. The fanciers of this breed of late years have been looking too much for color and smoothness of face, and have lost sight of size, shape, and constitution. I hope no deterioration will ensue, but there is a tendency in that direction not only in this breed, but also in others belonging to the utility classes, due to the fact that fancy points are made to out-value those for size and shape; and this deterioration will go on as long as the "standard of excellence," which is our guide in judging, is changed every few years, and made to suit individual fanciers of particular strains. I hope in a future article to speak further on this subject.



Langshan Hens,
The property of The Ontario Agricultural College.



Barred Plymouth Rock Hens,
The property of The Ontario Agricultural College.

THE ANDALUSIANS.

Of the fourteen varieties of fowls kept in the breeding pens of the Ontario Agricultural College, the Andalusians, during the last two years, have laid more eggs and larger eggs than any other. I would not say that if Leghorns and Minorcas were allowed their liberty their record as egg producers might not be as great as that of the Andalusians, or even greater. I believe that those varieties require greater range than do the Andalusians. If fowls are confined to small runs, especially the smaller breeds, we cannot expect as great a tendency to egg production as when they are allowed to forage wherever they choose.

Time and space will not permit me to write further on other classes of fowl in this number.

FEEDING.

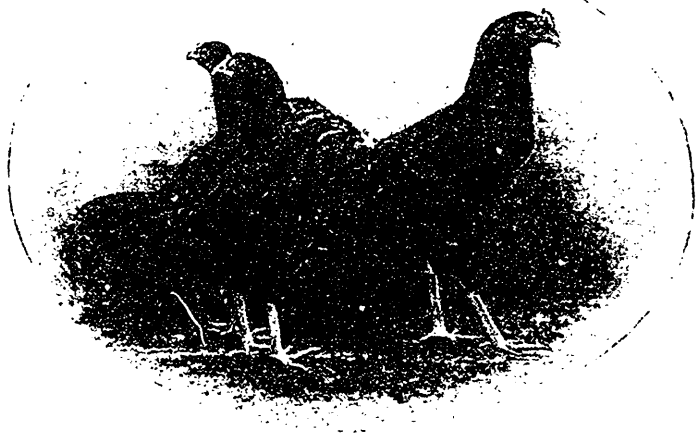
In feeding for egg production we must imitate nature as nearly as possible. We find that in springtime and early summer, when the weather is warm and pleasant, and there is an abundance of green food, insects, and worms, fowls naturally lay better than at any other time. You will then see

them nipping a blade of grass here, flying for an insect there, or scratching for worms, not forgetting a little grit, or a seed, or a kernel of grain, or perhaps they may be sampling a berry patch, or the fruit of the garden; then, if they are allowed to enter the vegetable garden, they undoubtedly show that they relish a little lettuce, cabbage, or tomato. Under these conditions the hen, if not a drone, would be laying all the time.

Now let us try to have spring and summer all the year round, so far as poultry is concerned.

If we expect hens to lay well during the winter months, we must provide them (1) with warm, comfortable quarters; (2) with a variety of food not simply grain, but vegetables, such as cabbage, turnips, mangels, and beets, all of which are acceptable to them. They should also have meat, say, a beef's head, boiled, so that the meat can be taken off the bone, or a boiled liver chopped fine, and mixed with their soft food. And those poultry-keepers who can procure a bone-cutter should do so, and so utilize all the bones that come from the kitchen, cut bone forming a most useful part of the hen's ration.

Clover hay, cut fine and steamed, or the clover



Indian Game Cockerel and two Hens,
The property of The Ontario Agricultural College.

leaves that may remain on the barn floor or loft, steamed, to which is added bran and middlings, or oat chop, will also make a wholesome food. Clover is rich in egg food.

If you have milk, sweet or sour, do not forget your hens with it; for not only do they relish it, but it will materially assist in egg production. Some prefer to boil the milk first before feeding it. I cannot say that the milk is any better for the boiling; but if the excrement or droppings from the poultry appear loose, then I would recommend the milk to be boiled.

All soft food should be mixed as dry as possible, so as not to be sticky or porridgy. Use enough bran in your make-up of feed to have it crumbly.

Corn should not form a large proportion of the grain food, as it is too fattening, especially when fowls are confined to winter quarters. Fowls may seem to thrive on corn during the summer, but at that season they do not derive their nutriment from the corn alone, but from the variety of food which they are then able to secure.

Wheat or buck-wheat, and good plump oats or barley, may be fed separately or mixed together. All grain, when fed to poultry, should be scattered among chaff or cut straw, so that the fowls will be forced to scratch for it. This is because fowls always need exercise.

Soft food may be fed in the morning or at noon, and grain at night.

I would not, however, advise the feeding of soft food in the morning when the weather is very cold, as then the fowls will fill their crops, and satisfy their hunger too quickly, and will huddle together to keep warm; whereas if a little grain were fed to them in their chaff, they would get warmed up, and would be more active during the day.

There is no food, animal or vegetable, that is not acceptable to the hen; nevertheless, unwholesome food, if consumed by the fowls, will

injure the flavor of their eggs, and should never be fed or thrown to them.

Fowls should always be provided with grit of some kind. I have used different kinds of grit, and have mixed different kinds together, and I find the mica crystal grit the best of all, as the hens prefer it to all others. It should be always kept in a box provided for the purpose.

FEEDING SMALL CHICKS.

Chickens do not require food for the first twenty four hours after hatching. After that time they should be removed from the nest, or incubator, where they were hatched. Then for the first week stale bread, soaked in milk, with the milk partly squeezed out, or the yolk of hard-boiled eggs, mixed with bread crumbs, will be found the best food for them.

Do not feed young chicks the white of eggs, as it is very indigestible.

Granulated oat-meal, fed dry, is also good, but it never should be dampered.

If the chicks cannot get grass in their runs, it should be provided them; or a little lettuce cut fine will do very well, if grass can not be procured.

Do not allow

the chicks' drinking water to get warm by standing in the sun. Give them fresh water three or four times a day. After the first two weeks, if you do not want bowel trouble, milk should be given them to drink.

Middlings, bran, and cornmeal, in equal parts, make a good food. The mixture should be dampened just enough that all the parts may be well mixed together.

Small wheat or cracked corn will be found the best grain food.

Farmers will find that if poultry are properly managed, utility breeds being selected, they will prove a profitable part of the farm's production, and that for the amount of capital necessary to be invested they will give more satisfactory returns than any other stock kept on the farm.



Black Langshan Cock,
The property of The Ontario Agricultural College.



Silver Wyandotte Hens,
The property of The Ontario Agricultural College.

COMMON DISEASES AMONGST POULTRY, AND SIMPLE REMEDIES.

By THOMAS A. DUFF, Toronto.

MR. THOMAS A. DUFF is well known to the readers of FARMING. For his portrait and an interesting sketch of his work as a poultryman, see FARMING for December, page 276. It should have been stated in that sketch that Mr. Duff is President of the Toronto Poultry Association. We are pleased to acknowledge that the idea of this Special Poultry Number of FARMING had its origin in a suggestion made by Mr. Duff to the Editor.

It is not without considerable diffidence that I speak to the readers of FARMING on this subject, so important to all breeders of poultry, whether their operations be on a large or on a small scale. So far as my experience in poultry matters extends, I must confess that I have rarely seen the subject properly or fairly treated. I do not make this observation because I feel myself at all equal to the subject. However, it will be my aim in this article to endeavor to point out the causes of disease in poultry, the symptoms of the more common diseases, and the appropriate remedies. I wish it to be distinctly understood that I am not an M.D. nor a V.S., but I feel that I can, perhaps, to some extent, prescribe for poultry.

GENERAL CAUSES.

Nearly all poultry diseases are caused by one or other of these four things: *Cold, damp quarters, want of cleanliness, or bad feeding*; in other words, by *neglect* somewhere. It is far easier to *prevent* than to cure. The great obstacle to contend with when birds are ill is that since they are covered

with feathers, there are few *symptoms* to observe, and, as you cannot tell what is the matter with them, very often you are compelled to prescribe very much in the dark.

In most of the fatal diseases there is a poisonous fungous growth in the blood. Fowls never perspire, by which means many evils might be thrown off; on the contrary, any evils that they have must be thrown off by respiration; and the result is that the great majority of poultry diseases are found in the head, throat, and lungs, and therefore it is in these parts that we must look for the symptoms of disease.

Very often diseases are inherited; that is to say, the parent stock were themselves unhealthy and passed their disease on to their progeny. If anyone should be so unfortunate as to have a flock suffering from inherited disease, I would strongly advise the butcher's block, and the obtaining of new stock.

To my mind also a certain class of *inbreeding* is also injurious—such as the mating of brother and sister.

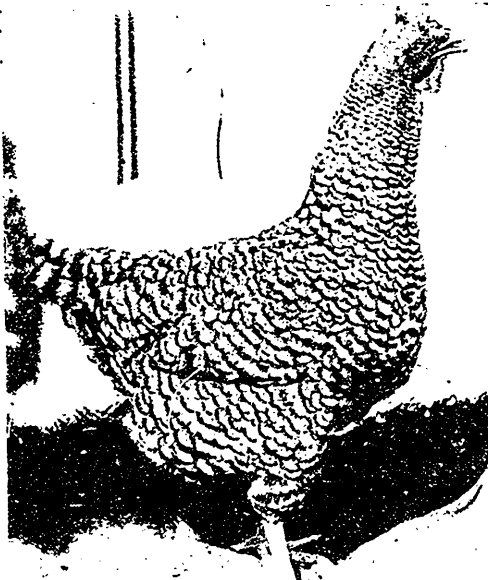
There are, however, many cases in which exposure or other active cause has occasioned in the most healthy birds an acute disease, presenting plainly-marked symptoms, the treatment of which should be well and thoroughly understood. Such cases are most amenable to judicious treatment, and fowls of great value may thus be saved, which,

without this knowledge, might otherwise be lost.

The best doctors are those who watch their patients while well, and *prevent* sickness, instead of waiting for symptoms and then trying to cure them. These find their best remedies in the regulation of the diet. It is, therefore, important to remember that fowls require good wholesome food, clean water and plenty of fresh air.

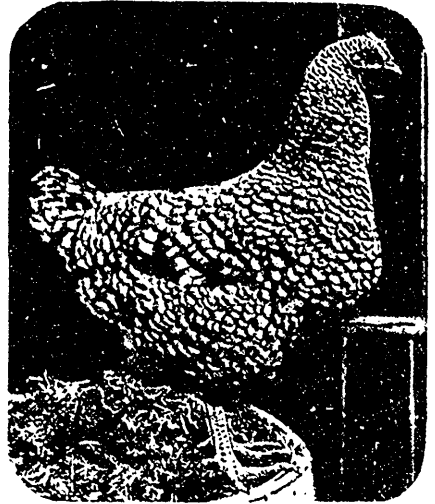
VENTILATION.

Lack of proper ventilation is one of the commonest causes of disease. A great number of breeders run away with the idea that suitable ventilation has been secured when a ventilator is put in with its bottom opening flush with the roof. This is a great mistake. It is the foul or cold air we must get out of our building, without carrying off too much of the hot air; but when the ventilator comes only just through the roof, the result is that we carry off the bulk of the warm or hot air which, during the winter months, it should be our aim to retain in the building. The foul air is always at the bottom of the building, where also the air is coldest. This foul air can be best carried off by extending the ventilators downwards to within eight or ten inches of the floor. This can be easily accomplished by making your air shaft of six-inch boards, and, instead of bringing it only just through the roof, bringing it as directed above to within eight or ten inches of the floor. The result will be that you will have the coldest air, which is also the foulest, carried off, and that the warmer air will be retained.



Barred Plymouth Rock Hen,

The property of Mr. T. A. Duff, Toronto. This hen was first at the Toronto Industrial, 1896. When the photograph was taken the day was excessively hot, in consequence of which the bird was panting.



Barred Plymouth Rock Hen,
The property of Mr. T. A. Duff, Toronto. A highly-bred prize-winning bird.

For use in summer, I have an opening cut in the ventilator shaft close to the ceiling, and when this is opened the warm air at the top of the building is carried away. The one ventilating shaft thus carries off the cold foul air in winter, and the overheated air at the top of the building in summer.*

We should utilize as much of the warm air as possible in winter, but care must be taken to see that it does not become foul. The ventilator, carefully watched and regulated, will prevent this.

CLEANLINESS.

Next, it is of the utmost consequence that the premises are kept thoroughly clean and that the houses are disinfected *at least* once every two weeks with carbolic acid and water in the proportion of two tablespoons of the acid to a gallon of water.

DISTEMPER.

To this disease all chickens are subject, and it may be contracted at any time, but more especially in the fall of the year. It is easily cured.

Symptoms.—A listless, quiet disposition. During the first day, there is a slight puff or fullness in the face. On the second day a white froth will be observed in the corner of the eye. There is also a decided loss of appetite.

Treatment.—Isolate the fowl affected, and place it in warm, comfortable quarters. Bathe the head and throat twice each day, with a solution of vinegar and water in the proportion of one of vinegar to ten of water, and give a one-grain

*See a description of this ventilator shaft in "A Model Poultry House" on page 333.

quinine pill every morning until the patient is cured. It is well also to put a little iron into the drinking water. Four days of this treatment will usually effect a cure.

ROUP.

This is the second stage of distemper, and unless the affected fowl is a very valuable one I would destroy that fowl and give close attention to the remainder of the flock. Thoroughly disinfect the poultry house and add iron to the drinking water. A little sulphur in the soft food would also result in good.

Symptoms.—Swelling of the head to such an extent that the eyes are often closed, and a discharge from the eyes and nose which is very offensive to the smell. These discharges result in a thickened yellow pus.

Treatment.—Press the nostrils until they are free from matter. Bathe the head and throat with the solution of vinegar and water the same as for distemper. Give a teaspoonful of castor oil, and a one-grain quinine pill night and morning. Birds affected should be isolated, and kept warm and dry.

CHICKEN-POX.

Symptoms.—An eruption on the comb, face, and wattles; in color, yellowish white.

Treatment.—Isolate all affected birds, and disinfect the poultry house. Remove the crown from each eruption. This will leave a bunch of tiny spiles or spikes, which will bleed profusely. Take a common caustic pencil and rub each scab. Next day apply a mixture of carbolic acid and vaseline. In about ten days all scabs will disappear. Give the fowl a one-grain quinine pill every day for four days. Feed soft food, in which put chopped onions. If the eyes are closed so that the fowl cannot eat, make small pellets of food, dip them into milk, and you will find no difficulty in slipping them down the fowl's throat. Chicken-pox is usually cured in about ten days if taken in time, but if neglected it will carry off the entire flock. It is a very contagious disease.

CANKER.

This is a terrible disease, and is usually caused by dirty houses and filthy quarters.

Symptoms.—Diarrhœa sets in, and the throat becomes inflamed and hot. This is followed by a white blotchy matter forming on the tongue and throat, often stopping up the gullet.

Treatment.—Isolate the fowls affected, and disinfect the poultry house. Clean out the throats of the birds diseased, scraping off all the white cheesy matter. This will often cause the throat to bleed. Then touch the parts affected with

caustic. Give a teaspoonful of castor oil. The caustic should be applied every other day.

Sure cure.—"Use a knife in the neighborhood of the throat, freely dividing the head from the body." It is better to kill the afflicted individual and then look after the remainder of the flock.

BUMBLE-FOOT.

Symptoms.—A swelling on the bottom of the foot which extends to the uppermost side. It is usually caused by the fowl jumping off a high roost on to a hard floor.

Treatment.—Lance the swelling and squeeze out all the pus or matter. Then poultice with linseed meal, renewing the poultice every morning.



Barred Plymouth Rock Cock,
The property of Mr. T. A. Duff, Toronto.

DIARRHŒA.

This troublesome complaint is caused by any sudden change in the diet, or a decided change in the temperature, and hence it is rather common. It is also caused by the lack of fresh water for the fowls to drink. Fresh water should be given all fowls in summer at least three times a day, and it should be protected from the sun. Diarrhœa is often caused by no water being provided for the fowls, so that they drink from the barnyard pond.

Symptoms.—The discharge resembles oil and pepper mixed, with green or yellow streaks through it. The fowl shows great exhaustion and moves about in a listless manner, as if all its muscles were gone.

Treatment.—Take equal weights of cayenne pepper, rhubarb, and black antimony; mix thoroughly. Put a tablespoonful into a quart of shorts. Isolate the fowls affected, and feed them

the shorts with this mixture twice a day. I have found this remedy to check the disease at once.

Another excellent recipe is as follows :

| | |
|-----------------------------|-------|
| Sweet tincture rhubarb..... | 2 oz. |
| Paregoric..... | 4 oz. |
| Bicarb. soda..... | ½ oz. |
| Essence of peppermint..... | 1 dr. |
| Water..... | 2 oz. |

Dose.—One tablespoonful in a quart of water.

For young chicks an excellent cure is scalded milk. I have also found common starch to be excellent.

CHOLERA.

Symptoms.—In true chicken cholera there is a sudden and violent accession of thirst, accompanied with diarrhoea; the droppings at first are



Black Minorca Cockerel,

The property of Mr. T. A. Duff, Toronto. First at the Ontario Poultry Show, 1896. Father of the 1st and 3rd prize cockerels at the Toronto Industrial, 1896.

of a greenish character, but by degrees they become thin and whitish, resembling "rice water." Great weakness results, and the fowls will often be found lying near the water fountain. The birds also present a peculiarly anxious look about their face. Chicken cholera is caused by excessive exposure to the sun—lack of shade, and heated water. The disease runs very rapidly, death generally resulting within forty-eight hours.

Treatment.—Isolate the fowls, and every three hours administer :

| | |
|---------------------|-----------|
| Rhubarb..... | 5 grains. |
| Cayenne pepper..... | 2 grains. |
| Laudanum..... | 10 drops. |

Give midway between the doses a teaspoonful of brandy diluted with rather less than its bulk of water, into which may be put three drops of iron.

Whenever a case of true cholera occurs in a yard, iron should be put into all the drinking water, the fountains kept cool, and plenty of shade provided. By these means, with the free use of green food, progress of the disease may almost always be effectually checked.

CRAMPS.

These are caused by damp weather or damp quarters.

Symptoms.—The fowl squats on its hocks; its toes are drawn up. The ailment is usually found in young stock.

Treatment.—Remove to perfectly dry and warm quarters.

CROP-BOUND.

This trouble is caused by careless feeding, or an accumulation in the crop of dry grass which has been picked up by the fowl. Mr. Lewis Wright thus describes it :

Symptoms.—"If the feeding be careless, the crop may become so distended with hard grain that when swelled afterwards by the moist secretions intended to assist digestion the outlet into the stomach is hopelessly closed by the pressure.

Treatment.—"With patience, an operation is seldom necessary; but some warm water should be poured down the patient's throat, after which the distended organ is to be gently and patiently kneaded with the hands for an hour or more if needful. However hard at first, it will generally yield and become soft after a time; and when it is relaxed a dessertspoonful of castor oil should be given, and the bird left in an empty pen. Usually there will be no further difficulty, but the fowl so affected must be fed sparingly for several days, to allow the organ to contract, otherwise a permanent distension may result, which, indeed, is sometimes the case after the greatest care has been taken; but beyond being unsightly this causes little injury to the bird.

"If such palliative measures fail, an incision must be made near the top of the crop. Let the bird be laid on its back. Gently remove some of the feathers from the crop, and select a spot for your incision free from any large vessels, which, if cut through, will cause troublesome bleeding, and weaken the bird. The incision, in most cases, should be an inch long. The handle or bowl of a very small teaspoon is convenient to remove the contents, and the best plan is to remove everything, and then to pass the finger (greased, and the nail pared smooth) into the

crop, and to feel the outlet. It is quite possible that a bit of bone, or other material, may be the cause of the obstruction, and if this is left in the operation will be useless. Then have what is called a glover's needle ready, charged with horsehair, and put four or five stitches into the inner membrane, drawing it carefully and closely together, and put, at least, three stitches in the outer skin. Place the stitches in the outer skin in such a position that they may be between the inner stitches. Take special care not to sew up the two skins together, as this would be almost certainly fatal. Feed, subsequently, on sopped bread, not very moist, and do not allow the bird water for twenty-four hours, as it is apt to find its way through the wound, and delay, if not prevent, the healing. There is not the slightest necessity to remove the horsehair subsequently. The operation should not be delayed if the other measures do not succeed in forty-eight hours, as delays add to the danger; and a sour, horrible stench from the bird's mouth is a plain indication in favor of operating at once."

EGG-BOUND.

Symptoms.—The most usual symptom is that the hen goes on the nest, comes off again without having laid, and walks slowly about, often with the wings hanging down on the ground, and evidently in great distress.

Treatment.—Oftentimes a full dose of castor oil will give relief in a few hours; if not, a small, flexible syringe should be passed up the oviduct till it meets the egg, care being taken not to fracture it, and an ounce of olive oil injected. It would be well to steam the vent before applying the oil.

SCALY LEGS.

Symptoms.—Leg scale is a scaly substance which grows upon the leg. It is caused by filthy quarters. To my mind, it is also hereditary.

Treatment.—Bathe the legs with coal oil and apply a mixture of sulphur and lard three times a week.

FEATHER EATING.

Instances have always occurred of fowls contracting the unnatural vice of devouring each other's plumage.

Treatment.—Give plenty of raw meat, plenty of vegetable matter, and soft food. I believe the immediate cause is *thirst*. Therefore, always see that the fowls have plenty of fresh water. Idleness is also a great cause, so see that the poultry are made to scratch for every particle of grain which they devour. This may be done by throwing their grain food into litter or chaff placed on the floor

LEG WEAKNESS.

This trouble is of frequent occurrence in cockerels of large breeds, and is caused by their outgrowing their strength.

Treatment.—Feed plenty of bone dust in soft feed, and see that the fowls are abundantly supplied with green food.

LICE.

Lice, while not a disease, are a great pest, and I deem it well to touch upon the subject briefly. There is absolutely no excuse for a lice-infested poultry house. If, however, you are so unfortunate as to have lice in your poultry I will give the remedy which I would adopt.

I would remove all the fowl from the building and thoroughly clean out all the chaff from the floor and nest boxes. Remove this chaff to the outside and burn it. After this is done make a



Black Minorca Cockerel,

The property of Mr. T. A. Duff, Toronto. Pronounced wherever exhibited as having the most typical tail of any bird of the variety ever shown in America.

whitewash, to which I would add four tablespoonfuls of carbolic acid for every gallon of the wash. Take a spray pump and force the wash into every crack and crevice of the structure, completely drenching the entire building. I would then pour coal oil over the roosts and into the nest boxes. After this is done I would take a sulphur candle (which can be procured at almost any drug store), place it on a tin dish and light it. Close every window and door and allow the fumes from the sulphur to leak out as best they may. After these fumes have been completely exhausted, take the fowls and dust them thoroughly with Persian insect powder or Dr. Hess' Instant Lice Killer. I have found this latter powder very excellent. In dusting the fowl take particular care to see

that a liberal supply is put in the neighborhood of the vent. After all the birds have been thoroughly attended to, put them back into the house, having first put on the floors fresh chaff, and into the nests clean straw. After this spray the entire building once a week with a solution of carbolic acid and water in the proportion of two table-spoonfuls of the acid to each gallon of water; and my advice is to use boiling water, as the fumes

from it are extremely pungent, and thus more lasting benefits will accrue.

This article is necessarily a practical one. I have attempted to deal only with those diseases that are of common occurrence, and I trust that what I have said will be found useful to the many readers of FARMING who take an interest in poultry.

SUCCESSFUL POULTRY-KEEPING.

BEING THE RESULTS ACHIEVED BY MR. AND MRS. R. C. ALLAN, OF COBOURG, ONT.

By THOMAS A. DUFF, Toronto.

MR. R. C. ALLAN, Cobourg, Ont., is one of the most successful of poultrymen in Canada to-day. He devotes himself to the practical side of the industry, and does very little in the way of exhibiting. He was born in 1853, near Cobourg, and, until recently, followed general farming as a business, though he says he soon saw, after he began to keep fowls, that they were the most profitable part of his farm products. Like all successful poultrymen, Mr. Allan commenced with a small number of birds, and worked his way gradually upwards. It was about twelve years ago that he began by purchasing a few fowls. Of

MRS. R. C. ALLAN is a thorough poultry woman. She has an inborn love for fowls, and takes not only a business interest, but a real pleasure in caring for them. Mrs. Allan was formerly a school teacher, having taught for three years in the vicinity of Collingwood. As stated in the brief account we have given of Mr. Allan, it was she who first induced him to look into the merits of poultry-keeping as a branch of farm work. Mrs. Allan is an excellent business woman, and maintains a thorough system of bookkeeping, by which she and her husband know precisely where they stand and what they have accom-



these, however, he kept an accurate account as to the cost of the feed, care, attention, etc., given to them, and of the returns, and the result was that he saw clearly that poultry-keeping would pay well if followed out intelligently. He informs us that it was largely through the influence of Mrs. Allan that he first gave his attention to poultry. From the above small beginning his business has gradually increased, until now it is one of the finest and most profitable purely poultry businesses in Canada. His present plant is not large, and the wonder is that he has accomplished so much from so little an investment. But he is now contemplating increasing his plant considerably.

plished at the end of every year. We are glad to say that in their case there has always been, at the end of each year, a handsome showing in favor of the fowls. Mrs. Allan believes that through their neglect of their poultry, the farmers of this country are missing the best chance of money-making which they possess. In her opinion care and intelligent feeding are the only necessary keys to success. We are exceedingly glad to be able to present to the readers of FARMING the very interesting account of Mr. and Mrs. Allan's methods and results which has been prepared by Mr. Duff, believing that it will stimulate many a one to try to be equally successful.

Mr. and Mrs. R. C. Allan, of Cobourg, Ont., have for some years past been known as among the most successful practical poultry-keepers of the Dominion. Indeed, I doubt very much whether any other poultry-breeders can show such a record on the practical side of the business as they can do.

Mrs. Allan, from childhood, had an innate love for fowls, and it was only at her earnest solicitation that her husband first consented to go into the poultry business at all. Their first undertaking was to purchase a few fowls and investigate the merits of the business in a small way before attempting anything larger. The result was a surprise to them; for they found, a thorough system of bookkeeping being employed, that the profits from their poultry far exceeded their most sanguine expectations.

A TOWN POULTRY-KEEPING BUSINESS.

Seeing that the business would be profitable, they went into it more and more largely as time went on, and finally removed from their farm to the town of Cobourg, where they are now so extensively engaged in the broiler and egg business that their reputation as successful poultry-keepers reaches from one end of the Dominion to the other. Their great success shows what pluck and energy can do.

AN EXPENSIVE PLANT NOT NECESSARY.

Mr. and Mrs. Allan assert that their experience has proven that highly expensive buildings are not an essential element of success. They have only about one acre of land, and upon this have erected no new buildings, using only the buildings that were upon the place when they took possession of it, namely, a few old sheds and out-houses. These, by means of a few windows and a small quantity of old boards and some tarred paper, they have converted into very useful poultry-houses.

"It is the fact that any one can keep poultry without having a large amount of capital invested in it which gives poultry-keeping such pre-eminence over other live-stock industries," says Mr. Allan. Of course this statement is supplemented by him with the warning that those who intend embarking in the business should see that the quarters occupied by their fowls are comfortable and kept clean, and that the fowls are properly and regularly fed. While it is true that in Mr. Allan's opinion expensive or elaborately built poultry-houses are not essential to success, still he does not under-estimate the advantages of having well-built and convenient poultry-houses when it is possible to have them; and he is now contemplating erecting a new poultry-house this

coming spring, so that he may be able to increase the number of his flock.

MR. ALLAN'S VIEWS AS TO THE IMPORTANCE OF THE POULTRY INDUSTRY.

Before going into some figures which will show what Mr. Allan has accomplished, and giving Mr. Allan's methods of rearing and feeding, I think it well to place before our readers Mr. Allan's own views in regard to poultry-keeping as an industry for the people. These are embodied in a letter to the *Weekly Globe*, published December 2nd last. That letter is as follows:

"SIR,—In a recent editorial entitled 'Helping the Farmer,' you remark very truly that there is nothing to prevent Canadian agriculturists from competing successfully with the farmers of Denmark, France, and Belgium for the butter, fruit, and poultry trade of Great Britain. Our natural advantages, which are unsurpassed in any country, lead farmers to look hopefully upon all feasible methods for the advancement of the handicapped industries in which they are engaged. Much interest, therefore, is being manifested among them in regard to the proposed measures of the Laurier Government for the development of trade routes and the improvement of our transportation facilities.

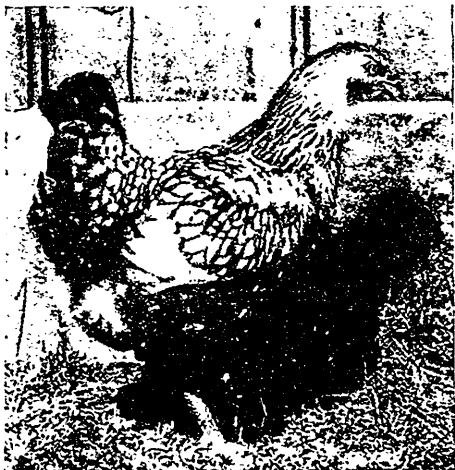
"But we have yet to make great strides in the way of *production* to attain the success of the French, for, while we send to Great Britain \$524,777 worth of eggs, they export to the same market \$5,350,000. But with the aid of cold storage we should be able to place upon the English market dressed poultry and fresh eggs equal in quality to the French product.

"Considering the small amount of attention that poultry-keepers in general bestow upon their flocks, the haphazard methods of hatching and rearing the young, and the carelessness displayed as to the quality of the eggs and fowl offered for sale, it is indeed a wonder that our exports of eggs and dressed poultry have attained their present magnitude. Almost every other branch of agriculture is carried on more intelligently and extensively with each successive year, but poultry and eggs, except in a few isolated instances, are produced by the antiquated methods in vogue fifty years ago. Not one farmer out of fifty to-day understands how to feed his poultry to obtain the most profitable results, and the question of providing suitable buildings never for a moment occurs to him. A scoop-shovelful of buckwheat or barley is thrown to fifty or eighty hens (it does not matter about a few more or less to him) when the chores are being done in the morning. Almost any old place to roost in, and that not cleaned more than once a year, is good enough for hens. Such is the rule rather than the exception in regard to the care bestowed upon the majority of farmers' flocks during the winter season.

"If, under such management, our exports of eggs to England amount to over half a million dollars, can we doubt that with a better system and more intelligent methods of work this industry can be made to attain a degree of success far exceeding anything that has been supposed possible? Business principles and competent knowledge are as much needed in poultry culture as in any

other branch of agriculture. Without suitable appliances it is impossible to make it remunerative, and with them the results depend upon the application of scientific principles of profitable poultry management by practical men and women.

"The next thing that suggests itself to the reader is, Where can a knowledge of these principles be obtained? The majority are working in the slipshod style described above, and obtaining what little knowledge they possess where and how they can. Would it, then, be out of place for a Government that desires to encourage and develop all the agricultural interests of the country to provide the best instruction obtainable? Our agricultural colleges have been working slowly along this line, but so far very little has been done. Private poultrymen and farmers, by careful experiments, have ascertained much valuable knowledge, but as a rule they cannot afford to make the necessary experiments. There is still great room for the improvement of the amateur and for inquiry by the expert on many unsolved questions where exact knowledge is lacking.



Silver Laced Wyandotte Hen,

The property of Mr. Jacob Derst, Toronto. Winner of first prize at the Toronto Industrial, 1896. This bird is a very excellent one, and very typical of her breed; but on the day the photograph was taken it was very hot, and the hen is panting from the heat.

This work might well be prosecuted at the Government farms. A thorough diffusion of scientific foundation-knowledge is not to be expected from private enterprise, much less a practical demonstration to the public at large of the advantages of artificial hatching and rearing of chickens in greater numbers than have yet become general in this country.

"The greater economy of time, food, and labor with which large quantities of poultry can be obtained for the market at any season is only one of many reasons why in our short season artificial incubation becomes almost a necessity. Also early pullets for winter laying can always be obtained with the incubator, but seldom in any number by hens; while the superiority of the brooder as a mother is conceded by everyone who has given it a fair trial. Brooder chicks, owing to the unvarying warmth and more systematic methods of feeding, feather and mature for mar-

ket, or commence laying, from ten days to three weeks in advance of those raised by hens. They are also free from vermin, and this is one of the most important items in favor of artificial work. Large numbers die with vermin when mothered by hens, and the work of keeping large numbers free from lice under natural conditions is, to say the least of it, almost enough to discourage the amateur.

"The importance of eggs and fowls as articles of diet, and the almost unlimited market we are striving to help supply, fully warrant more attention being given to this industry than it at present receives. If something along the lines suggested could be attempted, and a greater interest aroused among the farmers by placing within their reach the necessary instruction, the result would soon be apparent in the improved quality of the poultry product, and the exports in a few years would reach a much higher figure than is thought of at present."

The above letter is so full of good sound sense that I think it well to reproduce it *verbatim*.

THE PRODUCTION OF BROILERS.

As may be inferred from the above letter, Mr. and Mrs. Allan use *incubators* for hatching chicks and *brooders* for rearing them. They believe that without artificial means it is impossible to succeed in the raising of chickens on a large scale. They have great faith in the broiler branch of the business, but nevertheless they have a decided preference for the egg branch.

In order that the production of broilers may be profitable, they must be produced early, and at a time when they are highest in prices. No greater mistake can be made than to keep the chicks until they are nearly full-grown. By Mr. and Mrs. Allan the broilers are generally sold when they run from a pound and a half to two pounds and a half to the pair, and never are they allowed to run more than four pounds to the pair. Mr. Allan informs me that last year it was utterly impossible for them to supply the demand for broilers, and that, too, at very remunerative prices.

Mrs. Allan has always kept an accurate account of what it costs to feed a chick during the first eight weeks of its existence (at the end of this time they are often marketed), and she finds it to be about *fourteen cents*. When I mention that the *average price* received for broilers during last season was eighty-seven and a half cents per pair, it will readily be seen that there is a big margin of profit in the production of broilers. If our farmers would just think about it, they would soon see that there is little money in feeding chickens for four or five months, and then marketing them at about forty cents a pair. The time to market them is in April, May, June, and July, when broilers are in great demand, and the price high.

I might mention just here that all the broilers hitherto disposed of by Mr. and Mrs. Allan have been sold right in the town of Cobourg. White Leghorns are the fowls almost exclusively used by Mr. and Mrs. Allan in their broiler business.

METHOD OF FEEDING CHICKS.

Mr. and Mrs. Allan have no hard and fast rule with regard to feeding young chicks. As soon as the chickens are removed from the incubator to the brooder, they are given food in the shape of bread crumbs and granulated oatmeal mixed with milk, and sometimes a very limited quantity of hard boiled eggs. Mrs. Allan bakes a cake for the little chicks composed of granulated oatmeal, "canelle,"* and cornmeal. Into this she beats up one or two of the infertile eggs, which have been removed from the incubator, and then mixes all with milk. A very little soda is added. This cake is crumbled up and fed as needed. She also gives them plenty of green bone.

For the first ten days the chicks are fed about six times a day, and afterwards some four or five times a day.

Mrs. Allan informs me that she believes it to be important never to give the young chicks two successive meals of the same thing, but to vary their diet as much as possible.

At the end of ten days they are given cracked wheat in addition to the ration above described. Ground bone and meat are also heated up and thickened with ground barley and corn meal. This, Mrs. Allan says, makes a grand food, upon which the chickens thrive well. As soon as they are large enough to eat whole grain they get plenty of it.

Fresh water and some kind of grit are always before them.

METHOD OF FEEDING LAYING FOWLS.

At the time of my visit there were about two hundred laying hens on hand. These were divided into three pens. The pullets were kept in one compartment, the yearlings in another, and the two-year-olds in the third. The object of this division is that the various ages of the fowls be not lost sight of, so that the fowls may be fed with food suited to their respective ages. In one pen, 15 x 14, there were some sixty-four fowl. This, I must confess, rather surprised me, because

* The ends of wheat grains; to be obtained at any flour mill.

I have always advocated allowing six square feet to each fowl, but the birds in this pen were allowed less than three feet and a half apiece. I am sure, however, that six feet to a bird would be preferable; and were it not for the fact that the best of care and attention are given by Mr. and Mrs. Allan to all their fowl I fear evil results would follow. However, there they were, and eggs were being turned out at a surprising rate. Moreover, the fowls themselves were perfect pictures of health and activity.

In the morning at daylight these laying fowls are fed cut clover hay, thoroughly steamed and mixed with "canelle," bran, and a limited quan-



Black Langshan Cock,

The property of E. McCormick, Newmarket. Winner of first prize at Toronto Industrial Exhibition.

ntity of peameal. Peameal is a highly concentrated food, and should be fed somewhat sparingly. This ration is fed at about milk heat. At ten o'clock mangels are fed; at noon ground bone and meal; at two o'clock a little whole grain, which is scattered amongst the chaff; and at night all the whole grain the fowls will eat up clean. This grain is varied from time to time, the grain most used, however, being good sound wheat.

THE COST OF FEEDING LAYING STOCK.

After having for years carefully kept track of the quantity of food consumed by their fowls, Mr. and Mrs. Allan find that the average cost of feed-

ing each bird is only sixty-four cents a year, and this, too, in a town where every particle of food consumed by the fowls must be bought and paid for at market prices.

This statement, no doubt, will make some of the opponents of poultry-keeping scratch their heads and stare, but nevertheless it is true; and it shows what judicious feeding and management will accomplish. It is undeniably a fact that by nine-tenths of those who keep fowls no regular or well-conceived plan of feeding them is adopted. The principal ration used is whole grain; and because when so fed the fowls get overfat and do not lay, the cry is at once set up, "They eat their heads off." It is just as reasonable to suppose that a hen that is intended to produce eggs needs a balanced ration as it is that a cow that is intended to produce milk needs one. Who would ever think to get the best results from a dairy animal fed only on a one-grain diet; or upon a continuous supply of ensilage, and nothing else?

Mr. Allan, however, has great faith in clover hay as a substantial part of the ration for laying poultry. He says that he believes that if he could not get clover hay for his fowl he would go out of the business. In fact, he informed me that it is impossible to get eggs produced in paying quantities unless the hens are fed clover hay and pure bone and meat. He is also a warm advocate of peameal as a food, but is equally strong in asserting that it must be fed in *very limited* quantities.

Crushed oyster shell, grit, and fresh water are always before his laying poultry. A dust bath also is in every pen.

Mr. Allan keeps a small stove in his poultry house. This, he says, is merely to prevent the thermometer from getting below thirty-five.

RESULTS OBTAINED.

By a continuous judicious selection of the best layers as their breeding hens, Mr. and Mrs. Allan have got together a flock of White Leghorns that are not only far above the average of the variety in size, but are also layers of very much larger eggs and of a greater number of them than is usual with Leghorns.

My hosts were kind enough to place before me their books of account and their egg records, so that I might see for myself the results of their business from a purely monetary point of view. These results think will be so interesting to the readers of FARMING that I here give a short summary of them:

| | |
|---|----------|
| Average number of eggs laid by each fowl and sold during one year, 186, or..... | 15½ doz. |
| Average price obtained during the year for these eggs per dozen..... | \$ 22½ |

| | |
|---|---------|
| Multiply the 15½ (the product of one hen for the year in dozens) by 22½ (the average price in cents obtained for each dozen of eggs during the year), and we have a total revenue from each fowl of | \$3 48½ |
| Deduct the cost of feeding a hen for the year.... | 64 |
| And we have a balance in favor of each hen of... .. | 2 84½ |
| Mr. Allan informs me that it costs him two cents a dozen to market his eggs; so that the cost of marketing the 15½ dozen is 31 cents. Deduct this..... | 31 |
| And we have a profit on each hen kept of..... | 2 51½ |

And this profit of over \$2.50 a hen, it must be remembered, is without taking into consideration the value of the droppings, to which I will refer later.

In addition to this, there must also be an allowance made in favor of the hen for a certain number of eggs produced by her that are used for hatching purposes in order to produce broilers and the next year's supply of laying pullets.

JUDICIOUS SELECTION NECESSARY.

The fact, however, must not be lost sight of that it is only by judicious selection continued from year to year that a flock of fowl capable of producing such a number of eggs as is above stated can be obtained, and even then such prolific production is possible only with the sort of care, feeding, and attention which Mr. and Mrs. Allan give to their fowls. In addition, to produce the financial result which Mr. and Mrs. Allan get the eggs *must* be obtained and sold *during the winter* months, when prices are higher than at other times. But what is possible with Mr. and Mrs. Allan is also possible with others, where equal judgment is employed, and equal thought, care, and attention given to the business.

After a hen is two years old, just before she begins to moult, she is marketed for whatever price she will bring—usually about twenty cents.

VALUE OF THE MANURE PRODUCED.

At the Grove Poultry Yards everything is turned to account. Drop boards are used in the houses, and the manure produced is scraped off every day, and taken away and piled upon a dry floor under a shed. The result is that the manure so cared for gets fine and dry. Mr. Allan then mixes with it gypsum and sells the product to the residents of Cobourg as a top dressing for their lawns. Upon all of the lawns upon which this dressing has been used the result has been astonishing. People stand and look at them in admiration. Only a very thin coating is used. Mr. Allan prepares the manure, delivers it, and applies it, and gets for it \$25 a ton. At this price it is usually sold in half-ton lots. He estimates that one hundred fowl will produce twenty-five hundred pounds of manure within the year, which at the

above price is worth \$31.25, not counting the cost of the labor or the gypsum. It will thus be seen that the manure is of very considerable importance in the annual showing. Mr. Allan evidently believes in having no waste products. Poultry manure properly dried is undoubtedly equal to the best guano, and everyone knows the value of this article as a fertilizer, especially so when he goes to buy it.

MARKETING THE EGGS.

Mr. Allan markets his eggs in Montreal, and he never allows them to be more than a week old when they are laid down in that city. Great care is taken to see that no badly-formed or thin-shelled eggs are shipped, and that all dirty eggs are thoroughly washed and cleaned before being packed. It is of the utmost importance, if we wish to make profit out of our poultry products, to have them always present a neat and inviting appearance. Great care is also taken to prevent any eggs of a bad flavor from being shipped.

LESSONS TO BE LEARNED.

From our visit with Mr. and Mrs. Allan, and from our observation of their methods and the results that they have achieved, we think we may fairly draw the following conclusions:

(1) Poultry-keeping may be made to pay a large profit if the poultry kept are properly housed and fed and carefully attended to.

(2) A "balanced ration" is absolutely necessary to success.

(3) Expensive buildings are not required. All that is necessary is that the fowls be comfortably housed.

(4) A thorough system of bookkeeping, so that you may know exactly where you stand, is a very great help to success.

(5) That to be absolutely honest in the marketing of your eggs will, in time, cause them to be in demand. Mr. Allan informs me that, in the shops where his eggs are sold, they are always known from the method of packing which he employs, and that customers coming into these shops ask for them particularly, and see that they get them in preference to any others. The obvious lesson is: Never keep your eggs more than a week before you market them, and always put them on the market in the most attractive form possible.

A WORD OF THANKS.

I cannot draw this article to a close without expressing my thanks to Mr. and Mrs. Allan for the courtesy which they extended to me during my visit, and for the readiness with which they allowed me to examine their books of accounts, and also for the pains which they took to give me all the information that they possessed. Everything was done to make my visit an interesting one. Moreover, they expressed the hope that the account of their methods, which I told them I was intending to give to the readers of FARMING, might result in benefit to all those who would read it. For myself I may truthfully say that I never spent a day more profitably, and I am sure that the information which I have here given cannot fail but be of service to anyone engaged in poultry-keeping who will strive to profit by it.

BRONZE TURKEYS: THEIR HOUSING, SETTING, BREEDING, MATING, AND POINTS.

By W. J. BELL, Angus, Ont.

Mr. W. J. BELL, of Angus, Ont., whose name in all parts of Canada, Great Britain, and the United States is now associated with the raising of good Bronze turkeys, was born on his present farm, near Angus, in the county of Simcoe, but he moved to Banda, in Mulmur township, about sixteen years ago, and returned to Angus in the spring of 1893. During Mr. Bell's residence in Mulmur he held a number of public offices that were bestowed upon him by the good will and esteem of his fellow electors. As an indication of the esteem in which he was held at this place, it may be mentioned that on the eve of his return to Angus he was presented with a gold watch and chain by his neighbors and friends. It was in 1886 that Mr. Bell began to breed Bronze turkeys, and in 1887 he made his first showing at the Simcoe county fairs. In 1888 he came to the Industrial at Toronto, having only a single pair of young birds, but he won 1st on his female and 3rd on his

male. Since that date, however, his birds have at this fair annually won the highest honors, including two diplomas. Also at the Ontario Poultry Show since 1892 (the year he first exhibited there), Mr. Bell has won more first prizes than all other exhibitors combined, and also every special and sweepstakes prize offered in the turkey classes. Moreover, at the Royal show in England his birds have won numerous prizes, including firsts, while at the Royal show in Ireland the first prizes have all been taken by his stock, and no less than three cups have been won by them in three years. In all, forty-three of Mr. Bell's turkeys have gone across the Atlantic for show and breeding purposes. FARMING is especially glad to be able to present to its readers the following account of Mr. Bell's methods as a breeder of Bronze turkeys, for undoubtedly he is one of the best breeders of this class of fowl in the world. He is also, in the opinion of experts, one of America's foremost breeders



of Rose Comb White Leghorns, his birds having won the highest honors at the Madison Square Gardens, New York, whenever shown.

HOUSING.

My turkey house is constructed as follows : It is placed against the south side of my barn, and might very properly be called a "lean-to." Where it is joined on to the barn it is probably twelve feet high, and it slopes to the front, where it is about six and a half feet in height. The total length is probably about twenty-five feet, and the width something over twenty feet. Along the front (at the top) a board is run. The bottom is boarded up to a height of about two feet, and then wire netting is stretched along the entire front.

The inside is divided into two main parts, the "run," and the pens. The outer compartment or "run" is about four feet wide. Its front is the wire netting, above mentioned. Its rear opens by sliding doors and by windows into the pens. At one end of the run is a door opening into the yard, and forming the main door of the turkey house.

On the inside of the "run," about a foot from the ground, a trough is constructed, out of which the turkeys feed.

The inner compartment is boarded up solid and divided into three pens, where the turkeys roost. At night a large window in each pen, opening into the run, provides light for each pen, and a big sliding door gives free ingress and egress. I think this plan is the best for a turkey house that I have yet seen.

It is most important that turkeys should be at liberty to run out every day. It is well known that if they are not watched they will roost on fences or buildings and in trees. This I do not consider advisable to allow, for it is dangerous; and, moreover, the effect of feeding is, to some extent, lost. When turkeys roost outside one might easily be stolen, or carried off by a fox; and they are then subject to all kinds of weather, which often impairs their health. At night, therefore, I drive my turkeys into the "run" of the turkey house and there feed them. The door of the run is then shut and the large sliding doors leading into the inside or sleeping pens are left open. The birds are thus compelled to roost in their pens during the night, where they are protected from foxes and the weather. They are let out again in the morning. The accompanying sketches will probably give a better idea of this building than I can give in words.

As to the degree of warmth at which the turkey house should be kept, my experience has taught me that it is better to have it pretty cold. One year I kept my turkeys in a pretty warm building, but they became sick and died. Since then I have kept them in my turkey-house, as described above, which is constructed of single boards only, but well protected from winds. There must be plenty of light, however. Since adopting this course I have very rarely lost a bird.

SETTING.

I generally set the hen in the place where she makes her nest. I place under her about seventeen eggs, and these are usually eggs laid by herself. Before giving her the eggs I give the nest a thorough dusting with insect powder, and a day or two before the eggs are due to hatch I dust her with the powder.

FEEDING.

After the young poults are hatched, they are left for twenty-four hours in the nest, and then the mother and youngsters are taken to a larger box, which is boarded up solid on all sides. They are confined in this for a day and are taught to eat bread crumbs, soaked in milk, from the hand. They are fed five or six times during the day. For the last two meals a little shorts should be mixed with the bread crumbs and milk. The next day they are removed to a large coop, the front of which is made of slats. The hen is confined here, and the poults are allowed to run in and out through the slats at will.

The coop is set in a place where the grass is cropped quite short. The reason of this is that in the mornings the long grass is full of dew, but

on short grass the dew dries off more quickly. It is important that the poults should not get wet. A scarecrow is placed near the coop to keep away hawks and crows. The most important thing in turkey raising is to move the coop in which the mother is confined the width of itself every morning, so as to have it on clean ground each day.

The feed given after the first couple of days for five weeks is shorts, mixed with any kind of milk. The poults are fed five times during the day. Twice each day dandelions and onions are cut up fine and mixed with the shorts. I am strongly of opinion that the feeding of dandelions keeps the bowels in good order, and this is of the utmost importance in turkeys. The onions are fed to keep up the appetite. Half milk and half water is always before them for a drink.

After the poults are five weeks old the hen is given her liberty to go where she will. She is, however, always confined at night. In the morning shorts are fed and the hen and poults allowed to wander. During the day they pick up numerous insects and grasshoppers, and after they are brought home at night they are given all the wheat they will eat.

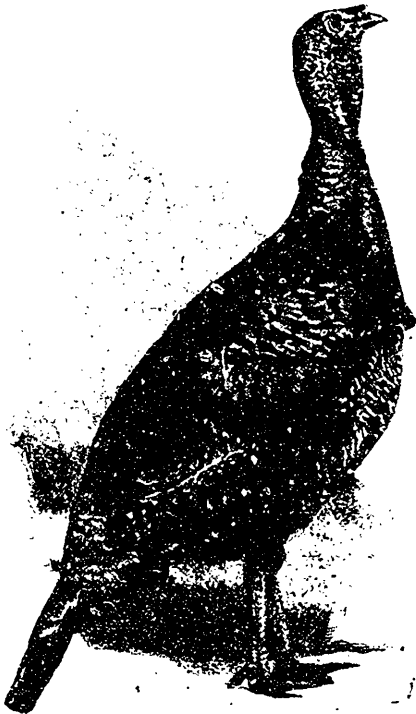
MATING.

I cannot agree with Mr. I. K. Felch, the most



Rose Comb White Leghorn Cock,

Bred and owned by Mr. W. J. Bell, Angus. This bird is one of the finest in America. It has never been beaten in competition, though exhibited at such shows as Madison Square Gardens, N. Y., Kansas City, Cleveland, Toronto, the "Ontario," etc.



Bronze Turkey Hen,

Bred and owned by Mr. W. J. Bell, Angus. Winner of first prize at Ontario Poultry Show. Weight, at ten months, 24 lbs. For an illustration of one of Mr. Bell's Bronze Turkey cocks, see frontispiece.

noted poultryman in America, when he says that to mate Bronze turkeys you have "only to discard all specimens disqualified by the standard, and to mate standard-described color." I have seen birds with two crosses of a Bronze male on a solid black hen so near the standard color that it would have been a difficult task to pick them out from a flock of pure Bronze. Yet when these good-looking specimens were mated again to a Bronze male one-half of the progeny were "off color."

Consequently, in my opinion, to mate properly, the first essential is to have good birds with good ancestors.

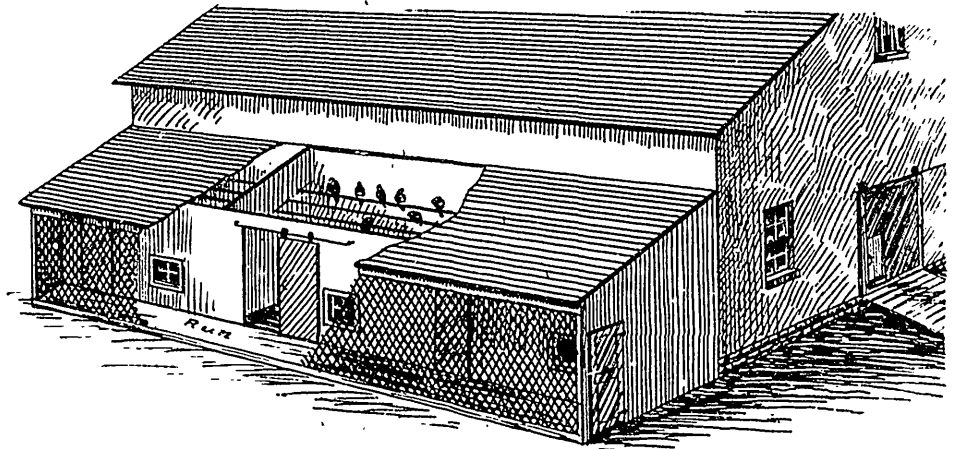
Neither do I believe in what I may call "outbreeding"; for it is impossible to produce fine birds yearly if you are sending every season to a different breeder for fresh blood, and do not know the types these breeders are breeding to.

My system is to "breed out" one year, and to "inbreed" two years; and by doing this I find that I can preserve the type.

I have had equally good results from using old, yearling, and young males; but, strange as it may seem to some, my largest specimens have always been bred from young hens under one year.

Seven females to one male is about the proportion that I use.

I give my turkeys full liberty around the farm buildings from the first of March, but I provide



View of Mr. Bell's Turkey House.

It will be noticed that it is a "lean-to" attached to the side of his barn. A portion of the wall and roof has been cut away so as to show the "run," also the feeding-pens inside with the sliding doors leading thereto.

them with a shed or moderately warm building to roost in at night.

I believe that "swelled head" or roup, that disease so common in turkeys throughout the country, is caused by compelling them to roost at nights in a crowded and warm henhouse.

Feed wheat and oats mixed once per day, in the evening, and if they have water so much the better; but they are able to hustle through fairly well on snow.

Pullets with good-sized bone, weighing from 14 to 16 lbs., and hens weighing from 17 to 19 lbs., will lay more eggs than heavier ones; and

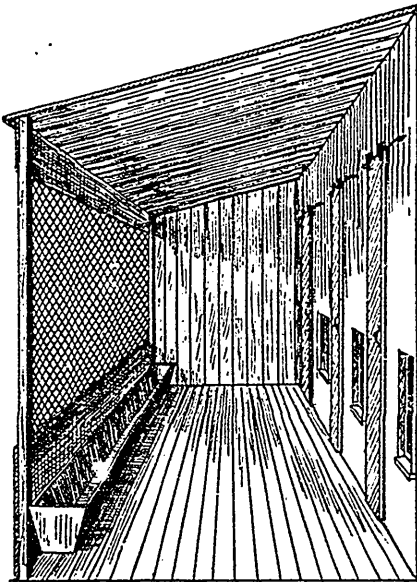
their eggs will also hatch better than those laid by heavier hens; but the use of the largest boned and heaviest male—whether young or old—will be necessary to produce you heavy exhibition birds; although a flock from a well-bred light male will often weigh more than flocks obtained from the heavier males.

POINTS.

The Bronze male should have a long and rather broad head. The bill should be stout and curved, and in color a light horn at end and dark at base. The wattles (the flesh around the head and neck not covered with feathers) should be very profuse, and extend well down the neck. The "standard of perfection" says the color of the wattles should be a rich red; but it is impossible to find them this color at all times, as they are continually changing from a blue black to white and again to red.

I will now describe the shape that I like in a Bronze cock; and I might add that it is this shape that buyers and fanciers across the Atlantic are so anxious to get. The head, neck, and breast should be held well up, with a nice arch on the neck at the head, sloping gently to where it joins the back. The back from this joining should be slightly oval from side to side, and curve in a nice oval to the tail, which, however, should droop at a little sharper angle. The breast should be full and round. A great many turkeys are slightly wedge-shaped here, and while I would not call this a fault, yet I would prefer the breast to be, as I have said, full and round.

Many strains of Bronze turkeys are low-bodied, short-legged, and flat-backed birds; these seldom win at large shows, although frequently they run to good weights.



View of "Run" in Mr. Bell's Poultry House.

Showing the feeding trough, the sliding doors, the front wire netting, etc.

The color of the neck and breast, and of about one-half of the back, of the Bronze turkey should always be a very brilliant bronze, similar to burnished gold; but the remainder of the back is darker as it merges into the tail coverts. The tail coverts *should* be the same color as the main tail feathers; but this is seldom found in the male bird, especially in the row lying on the tail. These generally lack the broad black band near the tip which the tail always has.

The color of the tail and the wings is where the great majority of Bronze turkeys are faulty; but I will describe the true color as correctly as I can. The tail should have about one-half inch of dull white on the tip, and then for about one and a half inches a black or bronze bar; and the remainder to the body should be black pencilled with reddish brown. The "wing primaries," or flight feathers (the part of the wing not visible when it is folded), should be perfectly and evenly barred with dull white and dark brown. The "wing secondaries" (or the part visible when the wing is folded) should have the bottom feathers barred the same as the primaries, but they should change into a bronzy brown as they come to the top, or part lying on the back. I prefer to see an odd spot of white up to the top feather. A solid edging of white along the bottom of each feather is very objectionable. The wing bow, or the front part of the wing, should be of a darker bronze than the back. The "wing bar" is the solid bronze bar that runs right up each

wing, and this bar should have a black tip to each feather.

The color of the body should be black, shaded with bars of bronze, but the thighs should be a shade lighter in color. The thighs should be very stout.

The "fluff," or the feathers behind the thighs, should be moderately short, and if they are bronzy in color, with an edging of dull white, they are highly prized.

The shanks should be long and strong. I prefer them round in shape, but a great many are nearly square in front. The color should be a light pink. The toes should be large and straight, and of the same color as the shanks.

The nearer the female approaches the color and shape of the male the more valuable she is; but I have not yet seen a female the equal of the male, especially in color.

The origin of the Bronze turkey was a wild turkey male that was crossed on a Narragansett female, and the fact that the latter was so light in color has caused some of this color to be transmuted to the Bronze female. This light color shows out generally as an edging on the feathers of the breast and the body, and in some cases on the back as well. All we can do is to get this edging as narrow and as small as possible.

The bronzy color all through the female is not so brilliant as in the male, but she has a fuller fluff and a finer bone. This latter should always be a dark pink in color.

EMBDEN GEESE: THEIR BREEDING, CARE, AND MANAGEMENT.

By W. J. HAYCRAFT, Agincourt, Ont.

NOTE.—For a sketch of Mr. Haycraft's experience as a poultryman, see *FARMING* for November, page 177.

Embden geese are the largest white geese in existence. Their plumage should be pure white, any black or colored feathers being a disqualification. The white color, in my estimation, gives them a superiority over the Toulouse, or any other kind of geese which have colored feathers, for the Embdens, when dressed for market, do not show any pin feathers.

Another feature in their favor, as I think, is the absence of "keel." The keel I consider a very useless appendage to either geese or ducks.

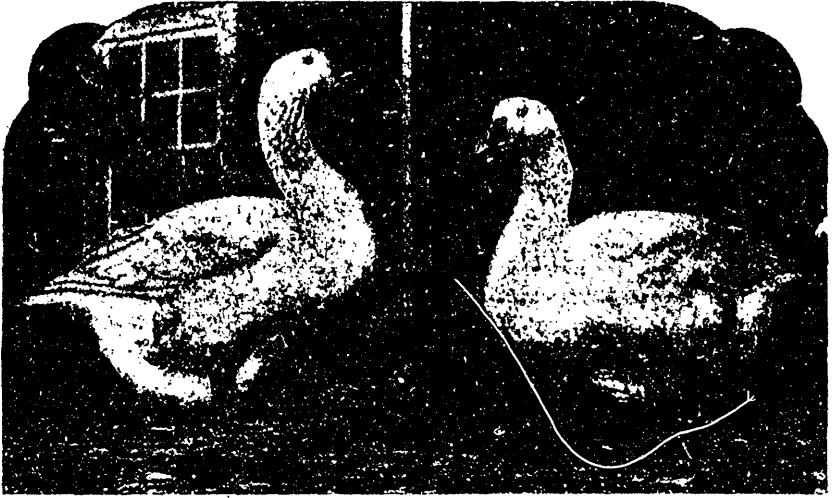
Although I have bred Embden geese for only one year, I am greatly taken with them. They are hardy, they mature early, and they are good layers. While they do not lay as many

eggs as the Toulouse, yet they lay a good setting, and at once sit; which I consider another point in their favor, for a goose can hatch her own young better than a hen can do it for her.

For quantity and quality of feathers, the Embdens among geese are, as the Pekins among ducks, the leaders.

I used to think that the Toulouse geese were the heaviest variety of geese, but experience has taught me differently; for a pair of young Embden ganders which I killed on the 16th of December dressed 41½ lbs. So much in favor of keelless geese.

Embdens are very quiet, and require no more care or attendance than other geese, and geese I consider the easiest sort of fowl to raise there is. During the winter months they require a comfortable house, but it is not necessary that it



Pair of Embden Geese,

Bred and owned by Mr. W. J. Haycraft, Agincourt. These geese were shown nine times in 1896, and won eight first prizes.

should be as warm as a house intended for other fowls.

The food for Embden geese can be principally roots, either raw or cooked. They are very fond of carrots. A little grain does not come amiss to them; but, by all means, do not overfeed them, for fat fowls of any kind are not as good breeders as those that are in fair condition. On the other hand, do not go too far in the opposite direction, for that is equally bad.

As the breeding season approaches, I have found that to feed roots without grain gives better results than to feed dry peas alone. When so fed the goslings appear to be stronger from the time they chip the shell till they are matured. We would not discontinue the roots until they can get grass. Where they are allowed to run on grass, they will pick up their own living, if you see fit to let them do so; but a feed of grain in the evening will induce them to come home at nights, so that they can be shut up away from all kinds vermin.

Geese that have a good grass run, especially if they have access to running water, will lay a greater percentage of fertile eggs than those not so favored; although I think geese will fatten faster if they are not allowed free access to water, for they like to be continually washing themselves in water. So long as they have plenty of water to drink, that is all that is necessary for them. Only, if you intend showing your geese, it is well to let them have access to plenty of water, for in this way you will get a better plumage, and you are saved the trouble of washing them.

I always keep geese eggs in the cellar, in a pan

or shallow box filled with bran, and every day, as new eggs are gathered, I *turn* those previously gathered; and I consider this very important, for it serves to keep the yolk from settling to one end of the egg. Eggs should always be placed on end when kept this way.

Set your geese on the ground, for that is nature's plan. Geese eggs require considerable moisture, and when the nest is on the ground this moisture is supplied in a natural way.

As soon as the goslings begin to chip the shells they should be watched to see if they are able to break the shell. If they should be weak, it will help to get them out of their prison to break the



Embden Goose,

Bred and owned by Mr. W. J. Haycraft, Agincourt, Ont. Mr. Haycraft himself is seen in the background.

shells a little for them, and to drop a little milk in their mouths. You will be surprised to see how rapidly they gain strength.

If there should prove to be any unhatched eggs, put them in the centre of the nest, for this will keep the little ones from getting crushed at the bottom.

As soon as the goslings are all out, they should be removed to a nice grassy plot and kept there till three or four weeks old, and be fed on oatmeal or shorts. Remember, however, that if the shorts be not mixed properly it is rather sticky, and so will adhere to them and cause them not to thrive so well. But if there is plenty of short sweet grass available to them, they will soon learn to pick their own living.

When the young goslings are three or four weeks old they may have their liberty; and then, as for feed, that depends upon their owner's generosity. The better fed they are the better returns will they make, and the earlier will they come to maturity. And this latter is a very important point to consider, for the first market is generally the best one; also it shortens the feeding season, a fact that must not be forgotten in these times of low prices and keen competition.

Cater to the wants of your market. Each one must be governed by his own surroundings. But by all means put your produce on the market in as attractive a form as possible, for we must meet the tastes of the consumer if we wish to realize the best prices.

PEKIN DUCKS.

THEIR CHARACTERISTICS, BREEDING, CARE, FEEDING, AND PROFIT.

By J. E. MEYER, Kossuth.

NOTE.—For a sketch of Mr. Meyer's success as a breeder of poultry—especially Wyandotte hens—see *FARMING* for December, page 252. For a very excellent and practical article by Mr. Meyer on "How to Make the Most Money out of Poultry on the Farm," see *FARMING* for September, page 46.

Of the different varieties of ducks that are described in "The American Standard of Perfection," there is no doubt but that the pure Pekin is the most profitable, if indeed it is not the only profitable variety. It grows the largest, matures the quickest, dresses the easiest and nicest for the market, has the finest plumage, and lays the most eggs.

CHARACTERISTICS.

In color the Pekin duck is a creamy white. Its body should be long and wide to the stern; its breast large, broad, and deep; its back slightly curved and wide; and its wings short. Pekin ducks are unable to fly.

The average weight of the drake is about $9\frac{1}{2}$ pounds.

The duck resembles the drake in shape, but it is fuller in the stern than the drake. During the laying season when in good condition her stern will very nearly touch the ground. The feet of both the duck and the drake are red, and their beaks are a deep orange in color.

"The American Standard of Perfection" disqualifies both duck and drake if they have any black in the beak. While this rule is perfectly just as regards the male bird, it is very unjust as regards the female. In 95 per cent. of the ducks

that are laying some black will be found on the beak. It seems to be quite natural. The provoking part of it is that the largest and best specimens are sure to have the black, while the small ones keep clear of it sometimes altogether.

A duck in perfect condition and just before beginning to lay will weigh 8 pounds.

BREEDING.

It is time now (Christmas week) that your breeding ducks should be mated and placed in the pens in which you intend to keep them during the breeding season. It will not do to remove them from their pen when once they have begun to lay, as it will surely stop their laying for a time. The earliest hatched ducks should always be kept for your breeding ducks. It is best to mate a yearling or two-year-old drake with young ducks.

During the early part of the season you will require one drake to four females; but later on you may lessen the number of drakes until you have five or six females to one drake.

We have had ducks that were hatched in March lay in September; and although we never had them to lay continuously all fall, still they will lay quite a number of eggs in December, and if they are properly cared for they will continue laying all winter until the following August. One hundred eggs in a year is quite a common number for a Pekin duck to lay, and some breeders have had them lay as many as 140. This is one of the great merits of the Pekin as compared with every other variety of duck.

The Pekin duck has two faults. It has a very coarse, unmusical voice that it uses to its full capacity, and it is very timid. You should never go near Pekins with a lantern.

CARE.

Pekin ducks do not need a warm house, for they are covered with a very thick coat of feathers, as well as with an abundance of down, but their feet are liable to get cold. You should always keep plenty of dry litter on the floor of their pen.

Do not allow them to run amongst cattle or horses, for they are too clumsy to keep out of the way.

Pekin ducks always lay their eggs at night or early in the morning; and they always cover

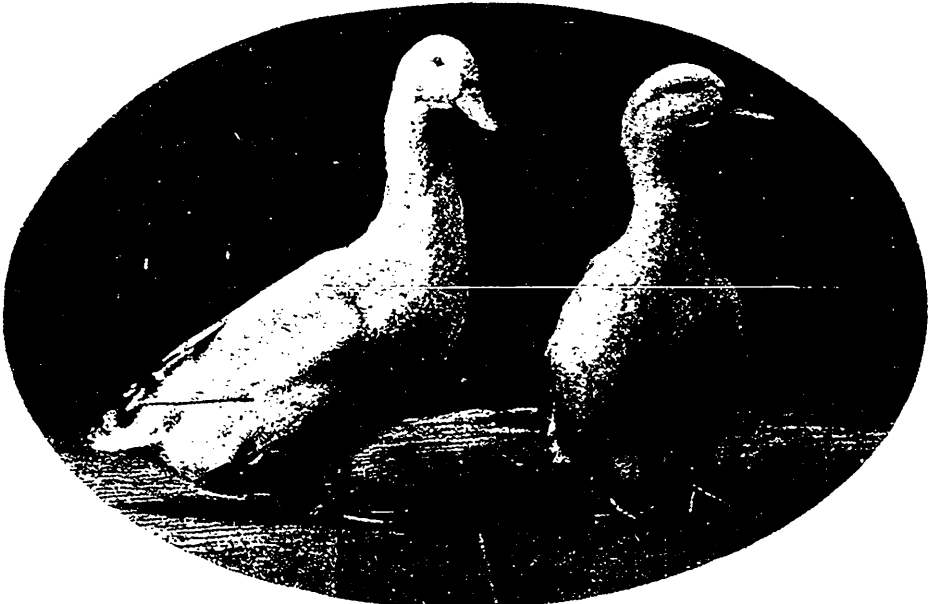
golts, or potatoes for them, and mix these with meal.

Ducks are very fond of cabbage. They must also have grit, the same as hens. Coarse sand will do very well. Ducks are never satisfied unless they are filled up, and they are not very particular what they are filled up with. When their breeding season is over you need feed them only the coarsest and cheapest foods.

Ducks have the bad habit of trampling all over their food if they get the opportunity, so that you should contrive to feed them so that they have to put their heads through between slats in order to reach their food. This rule applies to young ducks as well as to old ones.

THE PROFIT.

In order to obtain the greatest profit from your



Pair of Pekin Ducks,
Bred and owned by Mr. J. E. Meyer, Kossuth, Ont.

them over with litter, so that even in cold weather there is very little danger of the eggs becoming chilled so long as you are careful to gather them every morning in good time. You can give the ducks their liberty for the day at eight o'clock, as they all will have laid then.

FEEDING.

By seven o'clock in the morning you should feed your breeders. Never feed them whole grain. Always give them a mash: bran, middlings, chopped oats, ground wheat or corn. At different times of the year they will require different foods. When you wish them to lay, feed them concentrated foods along with plenty of meat scraps of some kind. Boil turnips, man-

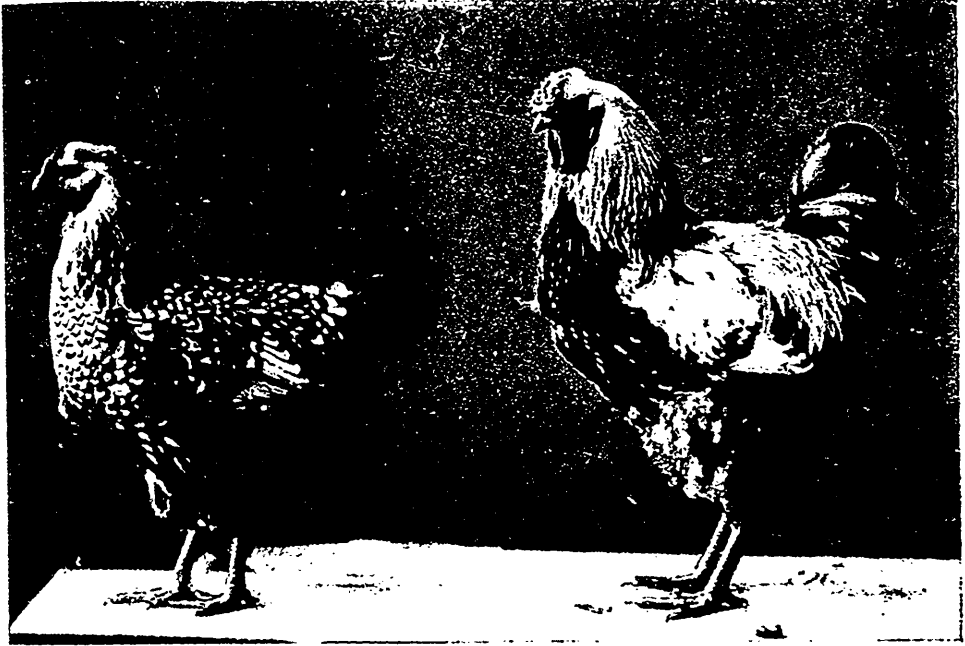
ducks you should have them lay as early as possible after the New Year, and begin hatching just as soon as you have eggs enough. We would advise you never to set the first dozen eggs a duck lays, as these are not likely to be fertile. If the duck has been hatched early enough and fed properly, she will have laid this dozen by January 1st. After this her eggs are considerably more fertile than hens' eggs.

Your whole aim should be to get as many early ducklings as possible, because it is from the sale of these that you obtain the greatest profit.

Young ducklings should be fed all the good strong food they will eat (and they can get away with a lot) until they are nine to ten weeks old, and then they should be sent to market. Kill

them when they have the least pin feathers. If you have the proper sort of Pekins, and have done your feeding right, your young ducks will dress from 8 to 10 pounds per pair. At this weight they will pay you well if you get them on a good market in proper shape. The feathers of such ducks are of the very best quality, and are worth considerable.

There is no money to be made by hatching out a lot of ducklings in the spring, letting them roam all over half-starved all summer, and then fattening them for Thanksgiving or Christmas, when the markets are glutted and prices are low. If your duck business is carried on in this way, your ducks will bring you in less money than they cost you.



Silver Laced Wyandottes,
Bred and owned by Mr. J. E. Meyer, Kossuth, Ont. Mr. Meyer has frequently won the highest honors for this variety of fowl.

THE PACKING OF POULTRY FOR THE ENGLISH MARKET.

By THOMAS FRASER, Manager of the Union Cold Storage Company, Montreal.

Mr. THOMAS FRASER, manager of the Union Cold Storage Company, of Montreal, is a man who, when once convinced of the soundness of a business enterprise, pushes it forward to a successful accomplishment in spite of every difficulty or opposition. His cold storage equipment in Montreal is the finest in Canada, and quite worthy to be compared with the largest and best in New York and Boston. And, though it cost over \$200,000 to establish it, the getting together of this capital, the planning of the whole plant, and the successful erection of it, even to the smallest detail, is all the work of himself alone. More than this, he had to create the trade which it was necessary to possess in order to utilize the cold storage facilities which he had provided, and make them pay; for, strange as it may seem, the conservatism of the ordinary shipper and commission merchant with respect to cold storage is so great that a cold storage plant may be in existence for a very considerable time before it receives enough of patronage to pay expenses. All these difficulties, however, Mr.

Fraser has overcome. His present cold storage plant is not only, as said above, the finest in Canada, and really something the Dominion ought to be proud of, but the patronage given to it by shippers, commission men, and others is exceedingly encouraging.

Mr. Fraser is still comparatively a young man. He was born in Quebec on Christmas Day, 1854. At an early age (fifteen) he began his business life, and was a successful travelling salesman at seventeen. His business experience has all been in connection with the buying, storing, selling, and shipping of food products. In 1891 he came to the conclusion that there was room in Canada for an improved service in cold storage and refrigeration. But to build and equip a modern cold storage plant costs a lot of money, and, as the idea was new and untried in Canada, capitalists could not be got to go into the undertaking. So Mr. Fraser began himself in a small way. His equipment was based on the "ice and salt" system, which, though the best system where ice is used, is by no means

equal to the modern mechanical-chemical system. Still Mr. Fraser persevered with his "ice and salt" plant, and soon had a good trade, and in a year or two not only had an experience which has been most useful to him in his later and larger undertakings, but also such success as was



necessary to convince capitalists that the cold storage idea was a good one from a commercial point of view. Accordingly, a strong company was formed, named as above, and two large blocks in the heart of the shipping centre of Montreal have been procured and have been converted into modern cold storage warehouses, with a total refrigerating capacity of 1,000,000 cubic feet. Here may be seen at any time, stored in different warehouses (completely isolated from one another), cheese, butter, eggs, fruits, both home and foreign, poultry, meats of all sorts, fish, and almost every other sort of perishable food product. The temperatures are so managed that each kind of product is kept at a temperature best suited to itself. The refrigerating air is perfectly dry; in fact, it is absolutely free from moisture and from all decay-producing germs; and, as it is constantly being drawn off and replaced by fresh supplies, the stored products are kept in air which is perfectly pure and dry all the time, and so may remain without change or decay indefinitely; and when they are taken out they are found to be in exactly the same condition as when they were put in. In this way food products (butter, poultry, fruit, etc.) consigned for sale when the market is congested and prices low can be held in perfectly sound condition, and at little cost, till the market is eased and prices are higher again. FARMING wishes Mr. Fraser abundance of success in his magnificent venture, and trusts soon to be able to record the establishment of similar cold storage plants in Toronto, Hamilton, London, Brantford, Winnipeg, and other commercial centres.

A public warehouseman, if he be keen in perception, can learn a lot, both of human nature and of modes of doing business. He must be well up in the different lines of products stored with him, or he will surely get into trouble with heavy claims being made for damage or loss, for which he is in no way responsible.

THE PACKAGE AN IMPORTANT MATTER.

Some who do not know, nor even think—how few *do* think!—say that the *package* has nothing to do with the sale of goods and the prices received therefor. Our buttermakers in the Kamouraska district, below Québec, suffered for a long time by persisting in claiming that their hand-made uneven-sized tubs, with lugs on them, made no difference in the price of the butter they sold, but a constant deduction of two cents a pound soon convinced them that that they were wrong, and now all their packages are made uniform.

There is a premium to-day of one cent per pound on box butter over tub butter of equal quality. The tub for the packing of butter is doomed. The Englishman will pay every time for what he wants.

Now this question of package and mode of packing applies to poultry as well as to butter. I see it every day. Do let us have uniformity of package. To my mind, there is a big future for the Canadian farmer in raising poultry for the English market; and our Government should make a determined effort to promote trade along this line as they have done for cheese and butter.

Let me give an instance of loss to the storekeeper who ships poultry, through his improperly packing it. A carload of poultry was received on storage. The commission man and buyer had agreed on a price; but when, on looking through one 600-lb. case, the buyer hit upon a few very inferior birds in the centre of this case, he simply refused the lot unless one cent per pound on the whole carload was deducted, in case other poor birds should show up. Here was a loss of one cent a pound on a whole *carload* occasioned by the fact that a few inferior birds were found in one case. Had the poultry been put up in cases that could be easily examined, it could then have been easily found out whether such a deduction were reasonable or not. But no commission merchant or buyer will take the trouble of examining many 600-lb. packages. The labor of packing and repacking is too great.

Packers of apples find that it pays to put their fruit up in uniform packages, and each package of a uniform standard as to quality. Hart & Tuckwell's famous "Horse Shoe Brand" is an example of this. These shippers can always get the highest price for their apples and other fruits. Their packages will be picked up by buyers when others will be passed by. And there are other examples.

The questions are:

(1) How can our poultry trade with England be increased and developed?

(2) How should our poultry be dressed when intended for shipment to England?

(3) What kind of package should be used when poultry is intended for export?

(4) How should our poultry be packed?

To the first and second of these questions I would say, Let our Government furnish us with reliable information as to where England gets her poultry supplies; what prices have ruled in the English markets for poultry each month in the year for, say, three or four years back; how the birds are dressed which are the most sought after in the English markets; and what grades and weights are most sought after there.

THE POULTRY IMPORTATIONS OF ENGLAND
IMMENSE.

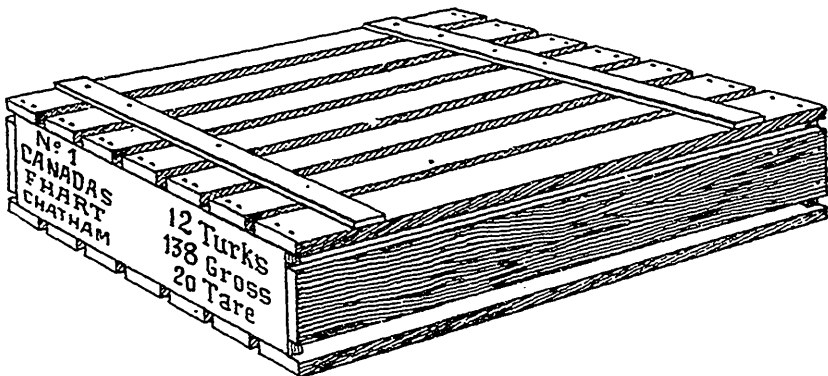
I have obtained information from reliable sources to the effect that Russia annually sends immense quantities of poultry to the English

market, which experience has shown to be handy to handle, and suitable to the commission man, the jobber, and the retailer. It is also one in which birds can easily be frozen if required, and be shipped with greatest economy of space in refrigerator steamers.

It is not often that the farmer consigns his poultry to our market direct; the bulk of the consignments come from country storekeepers, who receive the goods from farmers' wives and pay for the same in store pay.

Now, therefore, it is the country storekeeper who is to be educated to pack poultry properly. When he does so he not only will make a gain for himself, but he will be able to pay the farmers higher prices for what he buys from them. He will also help to make business a pleasure to the commission man, the jobber, the warehouseman, the retailer, etc.

Failing this, it should be the endeavor in every



Model Poultry Package (closed),
Recommended by Mr. Thomas Fraser, Montreal.

market, "rough dressed," i.e., dry plucked, with wings and legs on, entrails left in, heads wrapped in paper, the birds being frozen in the open air, and then packed in cases. Canada should certainly have a portion of this trade, and might easily secure it if the proper steps were taken to do so.

Australia, on the other hand, has made some trial shipments, with satisfactory returns to shippers, with the birds "plucked and pulled" (i.e., prepared ready for the pan). The birds are frozen and shipped in crates, one bird high, each bird being wrapped in cheap tissue paper.

Our Government should ascertain which of these two methods of packing and shipping it is most advantageous for us to follow; and should then endeavor to put our poultry-raisers and shippers in the way of getting this trade.

A GOOD FORM OF POULTRY PACKAGE.

As an answer to the third question, I would sug-

gest a package of small cost, which experience has shown to be handy to handle, and suitable to the commission man, the jobber, and the retailer. It is also one in which birds can easily be frozen if required, and be shipped with greatest economy of space in refrigerator steamers.

The package which my experience leads me to recommend is as follows: A box or crate three feet three inches long, by two feet three inches wide, by six inches high, inside measurement. This will hold twelve birds, one tier high, of ten to twelve pounds each. The same number of birds weighing from fourteen to sixteen pounds each will pack in a case or crate three feet five inches long, by two feet five inches wide, by eight inches high, inside measurement.

Other sizes can be easily arrived at. Half-inch lumber, in the rough, three to six inches wide, may be used, the end pieces only being planed. These boxes or crates would be very cheap. Of course planed lumber would look neater. If the storekeeper used his old packing-cases to make

these crates, the cost would then be simply the trouble of making them.

A case or crate made as above would weigh when filled only from 125 to 150 pounds each, and could be easily handled by one man.

On end of the crate should be marked with stencil (stencils are very cheap) the shipper's name and his brand, if he has one, thus :

John Jones,
Cambray,
Ont.

Brand

12 chicks.
118 lbs. gross.
22 lbs. tare.

The ends of the crates should be fully a half inch higher than the sides: this is to allow a space for air to freely enter at the top and bottom, so that the contents can, if required, be frozen without removing them from the crate. The slats should be a quarter of an inch apart.

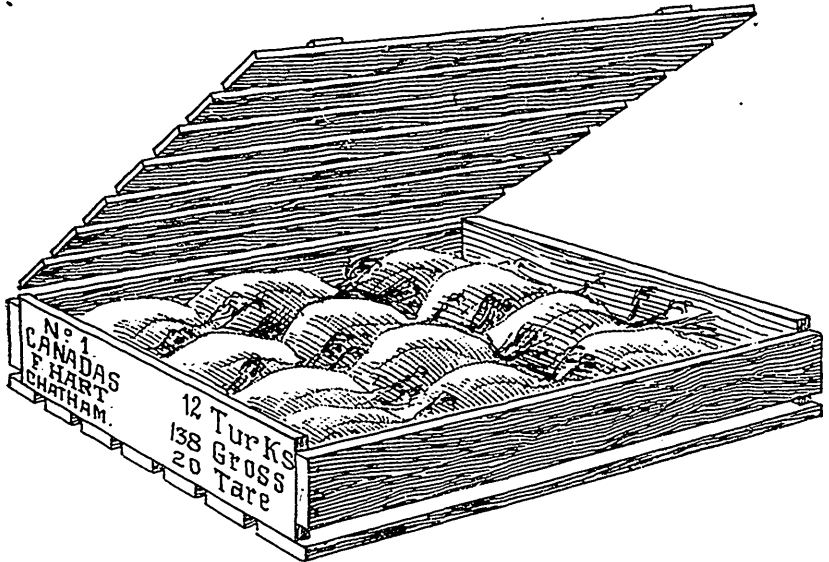
In answer to the fourth question, How should

truss up the legs and tie, folding the head *outside* the wing. Packed in this manner the birds will show to the best advantage, and when the cover of the crate is removed the intending buyer can see at a glance the quality and condition of all, and will pay full value.

Moreover, this mode of packing will preclude the possibility of a claim being made of one or two cents a pound on a whole consignment for inferior stock unseen, each quality being separate.

CANADA SHOULD TRY TO SECURE THE ENGLISH POULTRY MARKET.

No one who knows the facts will dispute the statement that no better poultry can be found in any market than our Canadian poultry. We have both the climate and the feed. Our neighbors to the south know this, and the English



Model Poultry Package (open),
Recommended by Mr. Thomas Fraser, Montreal.

our poultry be packed? I would remark as follows :

If a reputation for brands is to be earned, there must be a selection of birds both as to quality and to weight. Select your birds, pack them as nearly as possible in uniform weights, *i.e.*, ten pounds to twelve pounds together; fourteen pounds to sixteen pounds together; and so on. Fat prime birds should always bear the brand on the crate; lean birds should have simply the initials of the shipper; and culls should be blank. Pack in rows, one tier high only, breasts up. If the bottom of the crate were lined with paper it would be an advantage. Tucking the heads under the wings is a mistake. Dry pluck, *clean*—a little care will pay—wrap the head in paper,

market is ours if we endeavor to capture it in the right way.

Fat turkeys and chickens improve if frozen, but they should be frozen as soon as possible after the animal heat is out of them. Lean birds will turn dark when frozen.

Frozen poultry, when removed from the freezer and exposed for sale, ordinarily, in warm weather, becomes wet on the surface, and afterwards slimy. This trouble is now overcome by a system (the Linde patent air circulation) of *thawing out*, or, as it is nicknamed, "*de-freezing*," artificially. All, or most, of the frozen meat sold in England is thawed out by this new process, and quarters of beef and carcasses of mutton that have been frozen and brought from Australia or South

America, are delivered to butchers free from wet, and it takes an expert to say whether they are fresh killed or not. Poultry can be treated in the same way.

It will, I admit, be a difficult task to change the present methods of packing and sending to market ; but the greater the difficulty the greater

and more persistent the work of reform must be. Education, illustration, and common sense reasoning will accomplish the reform in time.

NOTE.—The cost of a *new crate* of rough wood, made according to the plans I have recommended, would not exceed one cent per bird.

POULTRY RAISING : ITS IMPORTANCE TO THE FARMER.

By JOHN J. LENTON, Biltmore, North Carolina.

MR. JOHN J. LENTON, now poultry manager at George W. Vanderbilt's magnificent establishment at Biltmore, North Carolina, was born twenty-four years ago at Oshawa, Ontario, where his father, a well-known and successful farmer and poultryman, still lives. Mr. Lenton received a good education at the High School at Oshawa, and intended at one time to be a teacher ; but his innate love of poultry, which at first made him take up poultry-keeping as a boyish hobby and pastime, soon led him to follow it as the business of his life. He began at first with pure-bred

good birds beside, he then determined to see what the fancier's side of the business would yield him. If selling eggs and stock to all parts of the Dominion and throughout several States, and having birds from his stock winning prizes at all the large shows, even in the closest competitions, be a sign of success, then Mr. Lenton may well claim to have been *very* successful. Mr. Lenton has also been a close observer of the experience of others ; and he never lets any opportunity slip by which he may extend his knowledge of his chosen specialty. The result is that, though even yet a young man, he is already classed among the leading poultrymen and poultry fanciers of the continent. In September, 1895, he was selected by the management of the "Biltmore Farms," the magnificent estate of Mr. George W. Vanderbilt in North Carolina, to take charge of the poultry department there, and Mr. Lenton, accepting, had the satisfaction of being, at twenty-three years of age, the manager of what is probably the finest poultry establishment in America, its cost having been not less than \$25,000. At Biltmore Mr. Lenton breeds the three breeds above mentioned and, besides, White Wyandottes, White Plymouth Rocks, Black Minorcas, Light Brahmas, Buff Cochins, and Indian Games. Mr. Lenton, as may be supposed, is an enthusiastic writer on poultry topics, and writes frequently for the Canadian and American poultry press. He has been a regular contributor to FARMING for some time.



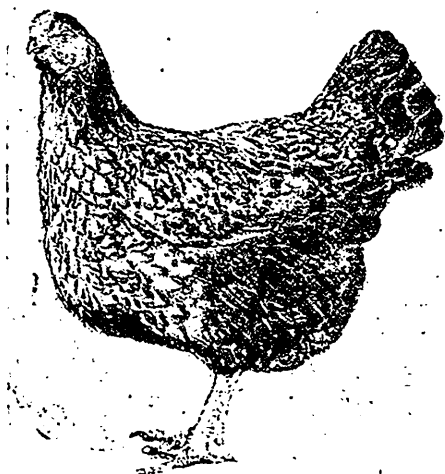
birds obtained near home ; but realizing soon how important it was to have the foundation of his stock the very best obtainable, he secured as early as he possibly could some "Toronto Industrial" and "Ontario Poultry Show" winners. To these he soon added the best he could get of American prize winners, obtaining, among others, birds that had been prize winners (1st, 2nd, and 3rd) at Madison Square Gardens, New York. These were Golden Wyandottes ; but he soon added to these varieties the best birds he could get in Silver Wyandottes and Barred Plymouth Rocks, and these three varieties are still his favorites. For several years Mr. Lenton devoted himself to the practical side of his business ; but finding it profitable, and having

A PROGRESSIVE AGE.

This is the age of progress. Man's inventive and ambitious mind is ever striving to surpass and outdo some illustrious predecessor or competitor. It is not merely a few men in a limited number of the many walks of life who are pressing to the front, but, as we may say, all men in their chosen vocations are devoting their entire energies towards reaching the highest degree of success possible to them. In glancing around us, however, we note many a business failure, and this seems to indicate that *all men* have not concentrated their ability towards the making of progress. Certainly, there are exceptions to all rules, yet it is evident that many a business or financial failure is not caused by lack of industry or the flagging of mental activity, but is either the direct or indirect result of not correctly interpreting the changing demands of the people who are their patrons.

DEMAND A VARYING CUSTOMER.

The needs and wishes of the people are ever changing, and it must be the policy of a successful business man to change his plans so as to meet the demand which every new desire creates. The changes and improvements that are made every year in the products of all manufactures are very noticeable. This year the enterprising merchant will place on his shelves an entirely new article, and one that was in constant demand only a few years ago is now so seldom called for that he no longer keeps it for sale. The professions, too, are rapidly introducing and adopting new departures. Now, among all these, what progress is being made by the man that feeds them all, the farmer? Look back twenty years, fifteen, ten, even five years! How short the time is since much of the modern farm machinery was introduced! What would a farmer think to be forced to return to some of the obsolete methods he used to follow? Still the cry is "hard times" on every side. But watch an enterprising man; he has resolved to succeed; and if the demands have so changed that he cannot do so in one direction he immediately seeks out another of greater promise. To-day, many a farmer begins to realize that the time has come for him to adopt a new departure. But what shall it be? is the burning question. Dairying and the raising of greater quantities of more improved stock seem to meet with the greatest favor. Fruit culture, too, is meeting with favorable encouragement. Now, in the raising of more and better stock, how many think of the much-abused "old hen"?



Golden Wyandotte Hen,

Bred and owned by James Lenton, Oshawa, Ont. The photograph shows the typical shape of this variety, but of course does not show the beautiful golden coloring for which the Golden Wyandottes are noted.



Silver Wyandotte Cock,
Bred and owned by James Lenton, Oshawa, Ont.

THE HEN IS NOT TO BE SCORNEO.

But the hen should be given recognition. Why? Simply because there is money in her products. Right here is where all the argument comes in; for, I am sorry to say, many of our farmers hold a contrary opinion. This is not because they are neither enterprising nor successful, but it seems to result from mere prejudice on their part. Is it not strange that prejudice only will restrain a farmer from adopting a line of stock that may make all the difference between business failure and business success with him? In general, farmers seem to think that caring for the needs of fowls is a somewhat childish work, more suited to women or children than to men. We suppose they get this idea from the hen being a somewhat insignificant, inexpensive, and independent creature. But what of that, so long as she is profitable? Is it not even *more* "childish" to persistently cling to an unprofitable branch of farming simply because the necessary investment for it is large, and the labor and management it requires beyond the power of other than men? Many farmers seem to forget the *percentage* of their investment, and only look to the *total profit*.

THE HEN BURIES THE COW.

To illustrate, we will take the investment required, respectively, for a hen and for a cow, and the profits made therefrom. Don't mistake; though both are *supposed* cases they are very close to actual results. The cow

originally costs, say, \$40. It will cost at least \$25 to feed her one year, and this sum will not allow of any "plum-cake" feeding either. Now you know, and I know, that if that cow's produce will make \$75 in the year it is every cent it will make. And surely it is very good, for we have made \$50 on our \$40 investment, labor not included. Now we will take our hen at a value of 40 cents. It is a poor hen that lays less than ten dozen eggs a year, and these eggs should bring, on an average, at least 15 cents a dozen. This is \$1.50 in eggs. Besides this, our hen will sit and produce us, say, 5 chicks—a small hatch, certainly. These chicks are poor ones if they don't sell for 25 cents each; on a farm, it will not cost us more than 15 cents each to raise them to a marketable age. Now we have added 50 cents more to our hen's profit. In the summer she will find most of her own food, and surely 50 cents will cover the actual value of all food she will consume during a year. Remember, we are talking about fowls on a farm, and not as kept by poultrymen, or fanciers. We now have left \$1.50 on our investment of 40 cents. Of course, \$1.50 is a small sum of money, and a good way from \$50. But, hold on—we can buy 100 hens every time we buy one cow, and, at that rate, our poultry profit jumps to \$150, or three times as much as the same investment in cows produced. Now, if our cow was a paying investment—which we think no one will deny—how much more profitable is our poultry investment!

Oh, no; I haven't exaggerated the poultry side one bit; in fact, I have hardly done the hen justice, and I have been very lenient towards the cow. Farmers, stop and think on this point. Lay prejudice aside and give poultry-raising the same care and attention you would dairying or any other branch of profitable stock-raising. Of course this may mean that you will have to improve your poultry houses and care for them in a different manner from what you have been doing in the past. But if it *pays* to do so, why not do so, and that at once? No good result is obtained without trouble, and delays are dangerous.

A STOCK OF POULTRY A FIRST-CLASS SPRAYING OUTFIT.

Our subject is "Poultry Raising: Its Importance to Farmers." We have tried to show that

poultry-raising is a money-making branch of farming, which, of course, must be the strongest point in its favor. We claim—and there are many who will substantiate what we say—that with the investment required poultry will pay the largest per cent. of any branch of farming. But is poultry-raising important to the farmer as an adjunct to any other branch? "Oh, yes," some say, with a blood-in-the-eye wink; "hens destroy our grain and damage lots of fallen fruit." To this remark we would answer that if your fowls are looked after as they should be it will be no trouble to keep them out of the grain for the week or two that they might do damage to it; and that the orchard is just the place for them. Suppose they *do* spoil a few apples of the lowest value; is it not much better for them to do so than that you should have your fruit all wormy, etc.? Remember



Barred Plymouth Rocks,
Bred by Mr. J. J. Lenton, now of Biltmore, N.C.

that fowls are great insect destroyers, and that when they have access to the orchard or the garden at certain periods of the year the benefit is greater than many imagine. Take plums, for instance. We all know that if the curculio would leave plums alone bushels would be gathered where now, in many cases, only quarts are gathered, and that oftentimes the complete failure of a promising plum crop is the result of this pest. Now it is an established fact that if plum trees are planted in the poultry yard, or if fowls have liberty to be among them, the plums are rarely affected by the curculio, and good yields of the fruit are obtained. This advantage, then, ought to be added to the profit side of the poultry account. Instead of this, however, the poor fowls are abused because they touch some of the fruit they have indirectly produced. Yes, as insect destroyers poultry are very valuable to farmers.

HOW TO MAKE POULTRY-RAISING IMPORTANT.

Success or failure with poultry simply depends upon the poultry-keeper. Care for and manage your fowls as if you really thought they were important to your financial success, and you will never be disappointed by them. It will do no harm, however, to keep in mind the following simple rules :

(1) In winter keep your fowls in warm, light, and roomy quarters.

(2) Feed nitrogenous grains, not those that produce fat ; give enough, but do not overfeed.

(3) Give plenty of steamed, cut clover hay, and also of green foods ; also of water, and either meat or cut green bone.

(4) Never forget that in poultry-keeping "cleanliness is next to godliness."

(5) In summer if fowls are given their liberty on the farm that is nearly all that they will require, provided a large number are not kept. However, a light feed of grain may be given to them at night.

(6) Another point, don't keep too many in one flock. Where fifty will thrive one hundred may fail. No farmer would keep ten cows in a pasture or stable suitable for only five.

So you see we are here at the same point as that from which we started; just treat your fowls in the same way that you would treat any other stock that you keep for profit, and it will soon be evident to you that "poultry raising is important to the farmer."

BUFF AND PARTRIDGE COCHINS.

By DR. A. W. BELL, Toronto.

DR. A. W. BELL, Toronto, has always been a lover of the feathered tribe even since his boyhood days, but chiefly on the fancy side of it, for he believes it costs no more to

Secretary of the Toronto Industrial Exhibition Association, a position which he has held since 1889, except in 1895. He is a frequent contributor to the poultry press of the continent, and at present conducts a Canadian department in the *Ohio Poultry Journal*.



Through the introduction of the Buff Cochins into England and America some thirty odd years ago, there was created a demand for fancy poultry hitherto unknown, which we might designate as the beginning of the great interest shown in them to-day.

The Buff Cochins came originally from Cochinchina ; but the typical importation of that time and the massive show-bird of to-day are two entirely different birds, the former being a long-legged, close-feathered bird, whilst that of to-day is a short-legged and profuse-feathered one, the latter quality being of great importance to an exhibition bird.

Possibly no variety of fowls commands more attention in the showroom than first-class specimens of the Buff Cochins ; for, with their profuse leg and toe feathering, their abundant fluff, and their short legs, they appear as a ball of feathers, which, added to their beautiful soft golden color, makes them very attractive.

In color they should be a rich, deep, golden buff all over, with as little foreign color in them as it is possible to obtain.

I have found them good winter layers at the time when eggs are scarce, but, being so heavily feathered on the feet, they are not very suitable for the farmer, unless he be willing to give them better accommodation than the majority of farmers seem willing to give ; but if Buff Cochins

raise a thoroughbred fowl worth \$5 to \$25 than it does one worth only 8c. to 10c. per lb., and in the majority of cases not as much. Often people make the remark, "I keep my fowl simply for the pleasure of the thing," but Dr. Bell believes that even fancy fowls may as well be made to pay their way, and he thinks that the fowls are all the healthier when so kept. Like a majority of poultry fanciers Dr. Bell has bred many varieties, but now he breeds only the Buff and Partridge Cochins, for he finds them of all breeds the most suitable to the narrow quarters which a city affords. Dr. Bell is best known to our readers as Assistant

have a moderately warm house and plenty of exercise they will lay a good many dollars' worth of eggs during the winter.

Added to this, the cockerels would certainly improve the size of the ordinary farmyard hen, which is far too small, as we too often notice when we endeavor to purchase a pair for cooking, and are offered small scrubs at, of course, the biggest going market price.

As to maturing, it should be said that, on account of their great length of feathers, they possibly do not arrive at maturity at as early a date as other breeds, though I have had pullets at nine weeks of age weigh $2\frac{1}{2}$ lbs., plenty large enough for broilers, whilst the cockerels, at the same age, might go a half pound more.



Buff Cochin Hen,

Bred and owned by Dr. A. W. Bell, Toronto. Winner of the First Prize at the Toronto Industrial, '96.

Cochins are possibly the quietest of all fowls, and a small space will do for them; and this nature of theirs is against them in a way, for they very easily fatten, which should be guarded against if they are intended to be utilized as layers, the hens soon becoming so fat that it is an impossibility for them to lay.

PARTRIDGE COCHINS.

What has been said of the Buff Cochins is wholly applicable to the Partridge Cochins, save

in color. The Buffs are the most popular of all the four varieties of Cochins, and the Partridge next, the latter being very difficult to breed to good birds, owing to the fine pencilling required on them. The Partridge cocks are, in color, a black breast, body, and tail, with neck and saddle orange red, each feather having a black stripe down its centre, the back and wings being a rich cherry red; whilst the females are of a deep mahogany background, with each feather pencilled with a darker brown, making a very beautiful bird when you have one that has every feather distinctly pencilled. Very many birds, however, have their pencillings blurred; in fact, the birds that are pencilled *distinctly all over* can be counted on the fingers of one hand.



Partridge Cochin Hen,

Bred and owned by Dr. A. W. Bell, Toronto. This is the finest bird of her kind in America, every feather upon her being distinctly marked with the peculiar partridge pencilling typical of the variety. Of course, she has never been beaten in any show-ring.

To the farmer fancier no variety would be better suited than the Partridge Cochin, for he has the space to breed a large number, and thus he has better opportunities for selecting a few good ones, and, as a three-foot fence will keep them within bounds, he need not be alarmed for fear his strawberry patch or vegetable garden will be torn to pieces by his favorite birds some Sunday whilst he is attending church.

BURLINGTON, December 15, 1896.—“As a farmer I may say that FARMING has my good will and sympathy, and that I consider it to be in form and matter one of the best agricultural journals published on the continent.”—A. W. PEART.

DAIRY SCHOOL, Kingston, December 5, 1896.—“FARMING is highly spoken of everywhere by farmers whom I meet. I believe many town and city people would buy it if sold like other magazines in the bookstores.”—J. A. RUDDICK (Resident Superintendent).

A FEW WORDS ON COLORED DORKINGS.

By JOHN LAWRIE, Malvern, Ont.

MR. JOHN LAWRIE, of Malvern, is a son of James Lawrie, the well-known breeder and importer of Clydesdale horses and Ayrshire cattle. Mr. James Lawrie has also been a well-known importer and breeder of colored Dorkings, and in this respect the son has followed the footsteps of his father, and so successfully that recently at many leading shows birds of his breeding have secured the lion's share of all the prize money. In 1895, at the "Ontario," a Dorking pullet of Mr. Lawrie's raising was pronounced by competent judges to have



been the best ever exhibited in Canada. He has also won good prizes (firsts and seconds) at the great poultry show at Madison Square Gardens, New York. Mr. Lawrie takes great pains to keep his colored Dorkings perfectly pure, and will not allow fowls of any other variety or breed to come within half a mile of his favorites. Mr. Lawrie is also, like his father, a successful breeder of Ayrshires, and his herd is considered one of the best in the county of York. Mr. Lawrie is an important office-bearer in several local agricultural societies, and also of the East York Plowmen's Association.

In my opinion, of all the varieties of fowls, Colored Dorkings are the best for farmers. They are good layers, and with their large body, their white skin, and their delicious flavor, they are one of the best, if not the very best, variety for table use.

The Dorking hens make grand mothers, and the young chicks mature early, and those farmers who wish to raise poultry to sell as broilers cannot do better than to introduce the Dorking blood into their flocks.

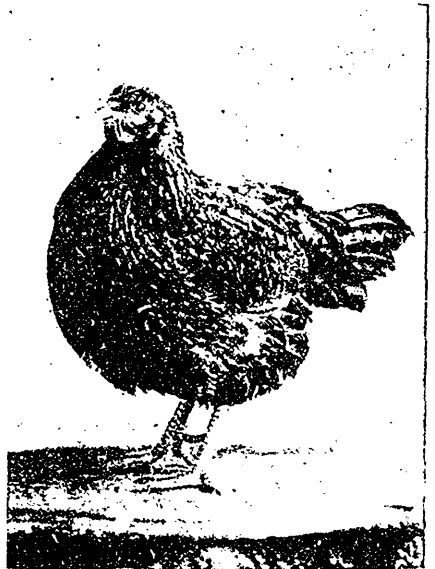
If they only knew it, farmers have better facilities for keeping poultry than any other people—not merely poultry for general use, but poultry for show birds; for it is very easy for any farmer to provide an unlimited run for his fowls in fine weather, and to have a suitable house to protect them from draughts at night, and on days that are wet or stormy.

My own henhouse answers the purpose to the letter, and it is not expensive, but is such as any farmer can easily provide himself with at a very



Colored Dorking Cock,

Bred and owned by John Lawrie, Malvern, Ont. This is a magnificent bird, but at the time he was photographed he was a little frightened, and, in consequence, drooped his tail.



Colored Dorking Hen,

Bred and owned by John Lawrie, Malvern, Ont. A fine likeness of a capital bird.

small cost. It was merely a common shed opening to the south, which I closed up. I fitted two windows into the new south wall, and, by means of

wire netting, I divided the shed into three compartments. I have had small doors made entering into each compartment, and I can thus easily open one pen or more at a time as I choose, and so let the fowls have free access to the barnyard on fine days during the winter, where they will keep themselves busy scratching for food, and thus have plenty of exercise, something that is very essential to successful poultry-raising.

The principal food that I use is clean wheat, with an occasional feed of meat of some kind. I always supply plenty of pure water, and grit. I keep a sharp lookout for vermin of all sorts,

knowing that these are the worst enemies of the poultry-keeper. By a liberal use of whitewash in which some vermicide, such as carbolic acid, is mixed, and by occasionally dusting the birds with insect powder, I am able to keep my fowls free from lice.

I feel very certain that any farmer who desires to do so may succeed in poultry-keeping. It only needs care, attention, and a study of the habits of the fowls you keep. And if you give them this care and attention, I am sure you will be able to make money out of your poultry—not only some money, but a good deal.

THE POULTRY ASSOCIATIONS OF ONTARIO.

[EDITORIAL.]

There are two poultry associations in this province which receive grants of public money, these grants together amounting to \$1,400.

The object of the Government in bestowing these grants is to promote poultry-keeping as a profitable industry for the people.

Poultry *fancying*, though a very pleasant amusement for those who are fond of it, is not an occupation that governments or legislatures can reasonably be expected to encourage by grants of public money.

But *poultry-keeping*, carried on with a view to the production of eggs, chickens, and hens, as food products, is an industry the proper development of which is of vast importance to the country, and therefore one that governments are bound to encourage in every possible way.

With respect to the two poultry associations above referred to, while the fullest credit should be given to them for what they have heretofore done to promote poultry-keeping as an industry, yet it must be said that if they are to continue to receive large grants of public money they must make a more adequate return for it than what they have hitherto done in the shape of a wider and a better educational work, and of a larger and more persistent encouragement of the breeding of what are known as the utility birds, as distinguished from fancy fowls and pets.

This failure on the part of the associations to return to the people a larger measure of value for the money which is paid to the associations out of the public chest has been pointed out to them many times already; and so far as the Poultry Association of Ontario is concerned a decided step towards improvement was taken when Mr. Browne was appointed its permanent secretary in 1892.

But Mr. Browne is only an executive officer, and can do nothing more than carry out the policy which his association lays down for him. He cannot amend or improve that policy; any amendment or improvement must come from within the association itself.

Though it is true that since Mr. Browne's appointment the executive work of the association has been faultless, the policy of the association remains to-day pretty much what it has ever been, namely, the giving of a great many prizes for fanciers' fowls and pets, in which the competition is small, so that large sums of prize money are won by a few people who keep a great variety of highly bred fancy poultry; while the great mass of the poultry-keepers of the province, the people who really maintain the poultry industry of the province, and whom alone the province has to depend on if poultry-raising is to be developed into the industry it ought to be, have to submit to a very much more crowded competition, and be content with prize money that in the aggregate is very little more than that offered in the ornamental and fancy classes.

Looking over the premium list of the Ontario Poultry Association for 1897 we see that \$652 of prize money is offered for the encouragement of the breeding of fanciers' fowls, such as games, bantams, polands, etc., and of pigeons, rabbits, and caged birds; while only \$763 50 of prize money is offered for the encouragement of the breeding of all the utility breeds of hens, all the breeds of ducks, all the breeds of geese, and all the breeds of turkeys. The breeding of the one lot is no more deserving of encouragement on the part of the Government than is the breeding of dogs or cats; in fact, the breeders of feathered pets and of furred pets should be put upon exact-

ly the same footing; while the breeding of the utility breeds of hens, and of ducks, geese, and turkeys, is an industry which every farmer in the country does to some extent participate in, and is to some extent also dependent upon for his living; an industry, too, which with proper encouragement might very easily become a hundred times of greater magnitude and importance than it now is.

Instead of public money being spent on these two distinct classes of objects in sums which are nearly equal, if any at all is spent for the encouragement of the breeding of fancy and ornamental fowls and birds it should not be more than one-tenth of what is spent for the encouragement of the breeding of fowls that are in universal use for the production of food products.

Moreover, in educational effort, that is, the dissemination of information with a view to the development of the poultry-keeping industry, which ought to constitute a large portion of the work of the associations, they have as yet accomplished but little. The reports issued from year to year have only during the last two or three years begun to contain any information other than lists of prize-winnings and the official minutes of meetings; and even in these latter years the improvement has, we doubt not, been wholly due to the fear of the loss of the Government grants, and not to an awakened public spirit in the members. The names which figure so conspicuously in the prize lists as those of successful breeders of fancy fowl are, with few exceptions, wholly absent from the reports as the contributors of information that might help to forward the poultry industries of the country.

The Government has treated these associations handsomely. Besides its annual grant of \$1,400, and the publishing of the annual reports, it contributed last year, to the larger of the two associations, the sum of \$500 for the purpose of providing the association with new coops.

What did the association do in return for this liberality? At the first subsequent meeting of its executive, in September of this year, it increased the number of ornamental classes to which prizes should be given by ten—maggies, lop-ear rabbits, turbits, buff Pekin bantams, game bantams, etc., etc., allotting prize money therefor to the amount of \$84. At the same time it showed the measure of its appreciation of the practical side of poultry-keeping by donating to the Provincial Fat Stock Show a grant of \$10 for the encouragement of the breeding of fowls for market purposes, as follows: for turkeys, \$3; geese, \$3; ducks, \$2; and hens, \$2.

Thinking people need only to have these facts

brought to their attention to be convinced at once that some change must be made. Some decided improvement must be shown in the policy which the associations adopt in regard to the encouragement of the breeding of utility fowls of all classes, and in regard to the education of the people in improved poultry methods, etc., or the Government will be taken sharply to task for its continuance of its grants to the associations.

An obvious beginning in the way of improvement is suggested by the recently proposed and now soon-to-be-accomplished reorganization of our dairy and creamery associations, by which there will be two butter and cheese associations for the entire province, one for eastern Ontario and one for western Ontario. Similarly, the two poultry associations of the province should be reorganized, so that they may be equal in scope and function, one of which should comprise the whole of the eastern part of the province, while the other should comprise the western part.

But, as in the case of the dairy associations it is proposed that, for purposes common to the whole province, there shall be a joint central executive board representing both east and west equally, so for the poultry associations there should be three officers taken from the eastern association and three officers taken from the western, and these together should form one joint central executive board, which should have full control of all poultry matters relating to the province as a whole.

And, just as it is proposed in the dairy reorganization, so should it also be in the proposed poultry associations, namely, that there shall be *one permanent secretary*, who shall be secretary for both the eastern and the western associations and for their boards, and also for the joint central executive board. This secretary should practically be the nominee of the Government, so long as the Government continues to aid the associations by grants of public money; but, of course, the nominee should be one that both associations could accept.

We refer our readers to the account of the proposed dairy reorganization, which appears on page 375, for arguments and illustrations why the plan should commend itself to the good sense of every man interested in the dairy industry in the province. And we feel sure that, on reading that account, our readers will see that a similar plan of reorganization will equally recommend itself to the good sense of all poultrymen in the province.

Were such a reorganization of the poultry associations accomplished, and should the new associations give to the utility fowls their due

share of attention, and, moreover, take hold of the work of educating the people in poultry matters with energy and discretion, there is no doubt but that a great impetus would be given to the poultry industry of the province. Where one chicken, hen, duck, goose, or turkey is raised and sold to-day, twenty would be raised and sold five years from now. We have the best climate for poultry-raising in the world. We have the finest poultry market in the world open to us; and our own home market is capable of taking twenty times the supply that is now offered to it. All that is needed is that the work of education and instruction be pursued constantly, intelligently, energetically, and with the definite end in view of promoting the poultry-producing industry and developing the poultry trade to the utmost possible extent.

If this plan of reorganization be gone on with, we would earnestly recommend, therefore, that the associations go into the work of instruction most thoroughly. Just as the cheese and butter industries of the province have been magnificently

improved by the work of instruction which now for some years has been carried on by the two dairy associations and by the creamery association, so can the poultry industry be equally improved by similar methods. Let every Farmers' Institute in the country be asked to hold special meetings to discuss improved poultry methods, and ways and means for the development of the poultry trade; let visits be made by competent poultry instructors to every rural community, for the purpose of demonstrating to farmers, and to farmers' wives, and to the young people on the farm, how poultry can be produced most abundantly and most economically; in short, let the methods prevail which have made the great mass of our farmers interested in the production of butter and cheese, and it will soon follow that improved systems of poultry-keeping will be followed out on every farm in the country, and that our production of eggs and dressed poultry will be increased, as we have before stated, twentyfold.

PROPOSED AMALGAMATION OF THE DAIRYMEN'S ASSOCIATIONS AND THE CREAMERY ASSOCIATION.

[EDITORIAL.]

Early in December the Hon. Mr. Dryden, Minister of Agriculture for Ontario, sent a circular letter to the members of the managing boards of the Dairymen's Association of Western Ontario, the Dairymen's Association of Eastern Ontario, and the Ontario Creameries' Association. This letter was for the purpose of bringing under the notice of the members of these associations a plan which the Minister for some time has had at heart, for the amalgamation of these three associations into what the Minister very appropriately calls "one grand dairymen's association." The details of the plan are very clearly outlined in the Minister's letter. Briefly, it implies that *in effect* there shall be one dairy association for the whole of Ontario; but that this association shall be divided into two parts, an eastern and a western, and that each association shall be governed by a board; but also that for purposes common to all sections of the country these two boards shall form one joint board, and that in the service of this joint board there shall be one secretary or chief executive officer, who shall devote his whole time to the work of the joint board, and of the separate boards, and of the dairy interests of the province as a whole. In this way it is felt, as the

Minister says in his letter, that "greater consolidation, greater unity, and greater uniformity of results" will be secured. We hereunder print the Minister's letter in full:

Toronto, Nov. 16th, 1896.

DEAR SIR,—Nearly five years ago, in an address delivered by me at the eighth annual convention of the Creameries' Association, held in the town of Harriston, I used the following language, as reported in the record of that meeting:

"There cannot be any warfare between the manufacturers of cheese and butter; in fact, they are getting closer together every year and every month of the year, and by and by we shall have them overlapping each other's work, the cheesemen making butter and the buttermakers making cheese. When this is being accomplished all over the country, there should be a joining together of the two. When the iron is hot, I should like to weld them together. Then we shall have one grand dairymen's association."

I have never abandoned this expectation, nor doubted its desirability, and it appears to me that the present time is opportune for its accomplishment.

An increasing number of cheese factories are being utilized in winter for the manufacture of butter. I estimate that one hundred creameries have been in operation in 1896 during the summer months. These will no doubt continue to operate throughout the winter. From the best in-

formation I can gather, I estimate that fully forty cheese factories will also engage in the manufacture of butter during the winter month. It is therefore plain that the same individuals and the same sections of country are equally interested in these two dairy products. Under this state of things, all that relates both to butter and cheese must necessarily be considered by each association, and therefore each must in the future supplement the other to some extent and cover practically the same ground.

The discussion of subjects relating to the choice of cattle, the care, management, and food necessary to secure the best results, must always be the same in both cases. Each of these associations sends out instructors with the view of bringing the quality of the products towards greater excellence and uniformity. As the work of cheese and butter associations cover the same territory, instructors from each association must necessarily go over the same ground, where one instructor, competent in both cheese and butter making, could do the work equally well, and thus effect a saving in time and travelling expenses.

Taking in the situation as it appears at present, it seems to me eminently proper that there should be a concentration of forces, with the view of greater strength and efficiency.

The first object gained would be to lessen the cost of management, and thus give an increased amount towards additional instruction and inspection, so necessary to greater uniformity of products. From a careful estimate I have made, I am of opinion that out of the present grant fully two thousand dollars might be diverted from expenses of management towards this necessary work.

The second important object gained would be the substitution of one representative body for the three at present in existence, with which would rest the oversight and direction of all matters of common interest.

At the present stage of our dairy industry it seems highly important that the Departments of Agriculture for the province and Dominion should have one representative authority which might be easily reached for consultation and co-operation in carrying forward such measures as will shortly be necessary in the extension of our markets for these products. By establishing proper cold storage facilities in transportation we shall be provided with the aid necessary to reach these markets, but in working out the details of the scheme there must inevitably be many things demanding consideration and consultation as between the producers and those acting for the Government in the matter. It will be almost impossible for the representatives of the Government to deal with three bodies, having, it may be, different opinions, and working, in some senses, towards cross purposes.

In the hope that my suggestion may meet with approval, I venture to suggest that the three dairy associations be amalgamated into one, and that this amalgamated association be divided into two parts, having an eastern and western board.

Or, if it is thought best, the Eastern and Western Dairymen's Associations might continue to exist, but in that case, in order to carry out my thought as previously expressed, each of these bodies should appoint an executive committee consisting, say, of four members, two of whom might be specially interested in butter and two in

cheese. These two committees should form a Central Board, whose business it should be to carry forward such work as might be of common interest to both the Eastern and Western divisions of the association.

The representatives of the Dominion Government, in making any arrangements for carrying out the cold storage plans, would necessarily consult with this body.

This would lead also to another departure—that of employing the same secretary for both branches of the association, or for the different bodies, as the case might be; such secretary being required to give his whole time to the development of this industry. The whole scheme tends towards greater consolidation, greater unity, and greater uniformity, both in the work and in the results that would accrue.

Should your association desire to co-operate in the matter of carrying out the scheme as outlined above, it might be deemed advisable to appoint a special committee to confer with a similar committee from each of the other associations.

I am writing thus early because it may be necessary to make some alterations in the statutory provisions regarding the associations.

Yours very truly,

JOHN DRYDEN,
Minister of Agriculture.

EDITORIAL REMARKS.

It will help to a better understanding of the need why the foregoing plan of amalgamation should be carried out to refer to a few facts respecting the history of the associations concerned. As will be seen by turning to our account of these associations, which was given in FARMING for September last, it was in 1867 that the Canadian Dairymen's Association was first organized. This was just three years after the first co-operative cheese factory was started in Canada. At the time of the organization there were 235 cheese factories in operation in Ontario, and the efforts of the association were for some time wholly confined to the holding of annual conventions, at which matters pertaining to the development of co-operative dairying were discussed. In 1873 the association was incorporated, and in 1874 it received its first provincial grant; after which its sphere of work was enlarged, and prizes were given at the leading fairs to stimulate the production of cheese of the very best quality.

In 1877 co-operative dairying had so far developed that it was deemed advisable to divide the association into two parts. This was done, and the Dairymen's Association of Eastern Ontario was then organized to look after dairying in the eastern part of the province, and the Dairymen's Association of Western Ontario was formed to look after the dairying interests of the west.

In 1879 the Dairymen's Association of Western Ontario determined to give instruction to makers in their respective factories. In 1880 a similar

step was undertaken by the Eastern Association ; and ever since that time the work of instruction has been a very important part of the two associations.

In 1885 the creamery men of the province complained that the associations were not giving enough attention to the development of the butter trade ; that in summer the work of instruction undertaken by the associations was altogether devoted to the promotion of the cheese industry, and that in winter, when the conventions were held, the discussions at the meetings took the same exclusive line. It was, therefore, determined that a separate organization should be formed, and this was done, and the Ontario Creameries' Association came into existence. There is no doubt that at the time of the formation of the Creameries' Association, there was good reason for its existence. However, as stated in Mr. Dryden's letter, the same conditions do not now exist. The cheese industry has been so fully developed that all dairymen realize that if they are to make further progress it must be by giving more attention to the development of the butter industry. In fact, now that cheese factories are devoting themselves to the making of butter in winter, and that even a number of creameries are devoting themselves to the making of cheese in summer, a successful dairyman is at once both a cheesemaker and a buttermaker, and a separation of the cheesemaking and buttermaking interests is no longer reasonable, or even possible.

It follows, then, that, supposing the present associations shall continue, the Dairymen's Associations will be largely taken up with the discussion of matters relating to buttermaking ; so that the existence of a third association to look after buttermaking interests exclusively would only mean an unnecessary expenditure of time, money, and energy.

And as in the new scheme it is proposed that there shall be two associations covering all dairying interests, both buttermaking and cheesemaking, and, therefore, that two conventions shall be held each year, one in the east and one in the west, it follows that buttermakers will find the new plan more convenient to them than the present one ; because, as things now are, only one convention of buttermakers is held each year, so that every year either the eastern buttermakers or the western buttermakers are put to great inconvenience by having to go a very great distance to attend their convention.

And as there will be a saving of inconvenience to the members by the proposed plan, so also will there be a saving of expense and time in providing the necessary instruction for the makers, inas-

much as under the new plan it will be arranged that the instructors sent out shall be competent to give instruction in both buttermaking and cheesemaking.

Furthermore, as is pointed out in the Minister's letter, there will be a great saving of expense. In 1895 the expense of holding the three annual conventions amounted, in round numbers, to \$1,350. By holding only two conventions, a saving of one-third of this amount would be gained at once, that is, of \$450. In addition, the directors' expenses for that year amounted, in round numbers, to \$690. But if there were only two associations there would be at once a saving of one-third of this amount, or \$230. Or, if we take as our standard the expenses of the directors of the Western Association, where there is a permanent secretary, who is employed to devote his whole time to the work of the association, which expenses amounted to only about \$95, there would be a saving under the new plan in directors' fees of about \$500. Again, the total office expenses of the three associations are, in round numbers, \$260 ; while the total expenses for officers' salaries, exclusive of instruction, are estimated at about \$900. So that we have here a total of over \$2,100, which either in savings or in amounts now actually spent in officers' salaries and office expenses, would be available for the purpose of defraying the salary and office expenses of a competent joint secretary, who, as proposed by the Minister, should take charge of the whole work of the two new associations, and devote his entire time, energy, and ability to the promotion of the dairy interests of the province as a whole. It is estimated that \$1,400 will be enough for this purpose ; so that here is a net saving of expenses of at least \$700.

Turning now to the revenue, we find that the total amount received for 1895 from the Government grants, and from members' fees, was, in round numbers, \$7,900. Allowing \$1,400 of this for the permanent secretary's salary and expenses, as above stated, and \$1,300, which it is estimated will be sufficient for the holding of two annual conventions and the expenses of two boards of directors, or \$2,700 in all, there would be \$5,200 left for the purpose of instruction.

In 1895 the sum of \$5,832 was expended in instruction, but of this sum \$2,664 was made up by fines and fees from factories, so that out of the Government grants and membership fees there was only \$3,168 actually spent in instruction. Comparing this sum with the \$5,200 which the new plan affords, we see that out of Government grants and membership fees alone there is an actual gain under the proposed plan of over \$2,000 in

the amount devoted annually to purposes of instruction.

There is, however, a very great advantage to accrue from the proposed amalgamation that cannot be estimated in dollars and cents. This advantage, we conceive, will arise from the appointment of a permanent secretary, who, under the direction of the joint board, will be the chief executive officer of the two associations, and who will devote, as was said above, his whole time and energy and ability to the promotion of the dairy interests of the province as a whole. It is only necessary to point to the great advantage that has resulted in the management of the Farmers' Institute system of the province from the appointment of a permanent superintendent to be convinced that similar advantages will result from having one person entrusted with the management of the official dairy interests of the entire province.

These advantages are, perhaps, obvious enough, but it may be well to indicate a few of them. The permanent secretary would, of course, see that all the instruction and inspection provided by the joint board was efficient and uniform. His office would be a sort of dairy bureau for the province, where information of every sort relating to dairying and dairy farming could be obtained. As his whole time and energy and ability would be devoted to the duties of his position, he would naturally watch the development of dairying in other countries—in the United States, England, Ireland, Scotland, the Channel Islands, France, Switzerland, Denmark, and Sweden—and be alert to bring under the notice of Ontario dairymen any improved methods or new processes he might learn of. He would also be able to act as a means of communication between the Ministers of Agriculture for the province and the Dominion on the one hand, and the members of the joint board and of the two dairy associations on the other. He would also be able to look after the public meetings held for the benefit of the dairying interests, and see that they were properly advertised, or "worked up," as the phrase is, and that they were provided with the best sort of speakers and lecturers, and that the good results accruing from these meetings were made to cover as wide a ground as possible. He would also be a means of disseminating dairy information among dairymen and dairy farmers, by means of bulletins, reports, newspaper articles, etc.

In fact, in every way by which co-operation among individual workers and concentration in directive effort can be of benefit to any industry we conceive that the proposed plan of amalga-

tion of the cheesemaking and buttermaking interests into one common interest will be of great benefit to the dairy industry of the province as a whole. The two associations, one in the east and one in the west, made up of buttermakers and cheesemakers in common, each managed by its own board, the union of these two boards into one joint board, to take charge of all dairy matters which concern both east and west, the appointment of a permanent secretary who shall be the servant of both the eastern board and of the western board, and also of the joint board, and who shall be the chief executive officer for dairying interests throughout the whole province; these, taken together, constitute such a plan for co-operation in individual effort and concentration in directive management as, we believe, will be found thoroughly workable, decidedly economical of expense, and greatly advantageous to the country.

A MEETING OF AUTHORIZED REPRESENTATIVES
OF THE THREE ASSOCIATIONS APPROVE
OF THE PLAN.

Since the above was written a meeting of authorized representatives of the three associations concerned has been held, at which the plan of amalgamation, as outlined above, has been approved. The meeting took place in the Parliament Buildings, Toronto, on December 30th. Those present were: D. Derbyshire, Brockville, president; A. Wenger, Aytton, William Halliday, Chesley, R. I. Graham, Belleville, representing the Creameries' Association; A. F. McLaren, M.P., Stratford, John S. Pearce, London, A. Pattullo, M.P.P., Woodstock, J. W. Wheaton, secretary, London, and R. M. Ballantyne, Stratford, representing the Western Dairymen's Association; and Messrs. T. B. Carlow, Warkworth, John R. Dargavel, Elgin, William Eager, Morrisburg, and R. G. Murphy, secretary, Elgin, representing the Eastern Dairymen's Association.

On motion, Mr. Henry Wade was made chairman, and Mr. R. G. Murphy secretary, of this joint meeting. An invitation to attend the meeting was sent to the Minister of Agriculture, Hon. John Dryden, and was promptly accepted.

After a lengthy discussion, it was moved by Mr. D. Derbyshire, seconded by Mr. A. F. McLaren, and carried unanimously, "That the three associations, as now existing, be amalgamated into two new associations, to be called the Butter and Cheese Associations of Eastern and Western Ontario, respectively, with an executive committee of three from each as a central advisory board."

It may now be considered that the reunion of

the cheese and butter interests of the provinces, so far as these public associations are concerned, is an accomplished fact. The meetings of the separate associations which are to be held this

month will be the last ones, for in all probability the individual associations will severally ratify the steps towards amalgamation taken by their respective executives.

THE ONTARIO FRUIT-GROWERS' ASSOCIATION.

Specially reported for FARMING.

The thirty-seventh annual meetings of this association were held at Kingston on Dec. 2nd, 3rd, and 4th, and were in some respects the most important meetings in the history of the association. By the kindness of the authorities the lecture hall of the Kingston Dairy School was put at the disposal of the fruit-growers, and Superintendent Ruddick extended a cordial invitation to the members present to inspect the dairy operations. The presence of the Hon. Sydney Fisher at a number of the meetings lent additional importance to this year's convention. Amongst others present were the Hon. John Dryden, Dr. Saunders, and Mr. John Craig, from the Central Experimental Farm; Professor Hutt, O.A.C., Guelph; Dr. Grant, Principal of Queen's College, Kingston; Professor Adam Shortt, Professor Fowler, and Professor Knight, all of Queen's College; the Mayor of Kingston, Mr. J. L. Haycock, M.P.P.; Mrs. Wilkinson, President Napanee Horticultural Society; Mr. Murray Pettit, Winona; Messrs. W. E. Wellington, Toronto; E. Morris, Fonthill; Linus Woolverton, Grimsby; W. Boulter, Picton; R. B. Whyte, Ottawa; Geo. Nicol, Cataract; Thos. Beall, Lindsay; R. L. Huggard, Whitby; W. M. Orr, Fruitland; A. M. Smith and M. Burrell, St. Catharines; J. S. Scarff, Woodstock; T. H. Race, editor of *Mitchell Recorder*; G. C. Caston, Craighurst; Harold Jones, Maitland; and F. G. H. Patterson, Grimsby. With such a list of names, it goes without saying that the papers and discussions were of a high order of excellence. He must be a dull man or a very wise one, indeed, who did not carry away from these meetings a good many new ideas and much food for thought. With the limited space at our disposal, it will be impossible to give more than a brief summary of the most practical papers.

"GARDENING IN RELATION TO CIVILIZATION."

Professor Shortt gave an admirable and most suggestive address on "Gardening in Relation to Civilization." Taking for his text the opening sentence of Bacon's essay, "Of Gardens," the speaker gave an interesting historical sketch of the history of gardening, tracing its progress and development from the earliest times in Persia to the present day. It was not until late in the eighteenth century that gardening as an art began to assume a freer form, and throw off the cramping influences of the Dutch and French systems, and the formal methods of mediæval days.

"CANNAS AND THE GLADIOLUS."

Mr. H. Groff, of Simcoe, read an instructive paper on "Cannas and the Gladiolus." The speaker appeared to be a veritable mine of information as to the latter flower. He had done a vast amount of hybridizing, and his address was stamped with the hallmark of specialism. Cannas, Mr. Groff said, for successful cultivation required a rich soil, bit of moisture, and a warm situation. No finer bedding-plant existed. Dr. Saunders spoke of some experiments carried on at the Central Farm to test the efficacy of sub-irrigating the cannas. Results showed that under this treatment the cannas flowered earlier, had bigger blossoms and the plants gained wonderfully in vigor.

"SWEET PEA CULTURE" AND "ROSES."

Mr. R. B. Whyte's paper on "Sweet Pea Culture" was much appreciated. A rich but moist clay loam was the best soil. Plant four inches deep, or six inches if soil is sandy. Wire netting five or six feet high is the best trellis. Look out for cutworms and red spiders. Some of the best varieties were America, Blanche Burpee, Primrose, Catharine Tracy, Lottie Eckfort, Firefly, and Ramona.

Mr. O. G. Johnston read a good practical paper on the "Amateur's Rose Garden," and concluded by warmly recommending to every lover of the queen of flowers Dean Hole's book on roses.

"FERTILIZATION OF FRUIT TREES."

Professor Fowler, of Queen's College, in his address on the "Fertilization of Fruit Trees, and Some Causes of Failure," pointed out the division of all blossoms into two great classes, those fertilized by the agency of the wind, and those fertilized by means of insects. All flowers with bright colors, including fruit blossoms, were fertilized by the work of insects, while all our grains depended on the action of the wind. If, then, during the blossoming time of any of our various grains there should be a marked absence of wind we might expect a poor crop of that grain. And if during the blossoming period of any particular fruit it should be too cold or wet for insects to work, the result would undoubtedly be a short crop of fruit. In the discussion which followed many interesting points were brought out touching the necessity of cross-fertilization, barren orchards, etc. This subject of fertilization is undoubtedly an important one to fruit-growers and will well repay careful study.

"OVER PLANTING."

Mr. F. G. H. Patterson's paper on "Over-Planting" created a lively discussion and some laughter. It was his deliberate opinion that planting was being overdone, especially with plums and grapes, and he thought it full time a halt was called. He treated his subject in a quasi-humorous way, and considered that we should have a "close" season for planting. There was more than a grain of truth beneath the humor of the paper.

"DAIRYING AND FRUIT-GROWING."

"Dairying and Fruit-Growing," by Superintendent Ruddick, of the Kingston Dairy School, raised a profitable discussion on the value of apples as a food for milk cows. It was shown that the popular idea as to the "drying up" of cows by the feeding of apples was a sheer fallacy. It was necessary, however, to feed a small quantity at first, gradually increasing the ration to half a bushel a day. It was also better for the apples to be fairly sweet and ripe.

THE VALUE OF SPRAYING.

Mr. W. M. Orr contributed a valuable paper embodying the results of the spraying operations conducted during 1896. The figures must have convinced the skeptic of the value of spraying. A typical instance may be cited. In an orchard never before sprayed trees of the "Snow

apple were sprayed six times and showed 82 per cent. of clean fruit; those sprayed twice gave 21 per cent. clean, and those unsprayed only 5 per cent. Comment is unnecessary. An estimate of the cost of spraying had been made, and about 11 cents a tree for six sprayings was considered approximately correct.

STRAWBERRIES AND SMALL FRUITS.

Strawberry growers had their innings when Prof. Hutt unfolded his chart, whereon were given the results of the testing of 150 varieties at Guelph. Ranked in the order of their yielding capacity, the first six were Warfield, Afton, Edgar Queen, Bisel, Prize, and Standard. For a late berry Prof. Hutt considered Edgar Queen the best variety. Of the early varieties Van Dieman, Rio, and Michel's Early headed the list.

Mr. Haycock's paper on "Small Fruits" elicited a good deal of opposition. He did not believe in pruning currants and gooseberries, but the experts were all against him.

THE PACKING AND MARKETING OF APPLES.

The apple, of course, received a large share of attention.

Mr. Wartmann thought more care should be taken in the manufacture of the barrels. Buyers in England took 165 lbs. as the standard weight, and where barrels were a little small unfavorable prices would follow. He recommended thicker staves, and thought four hoops better than two. If one breaks the barrel expands, and then "slack" appears in the account sales. He believed that the fruit should be taken from the orchard to a dry, cool building, and allowed to "sweat" before being packed. If, however, packed right after picking, the head of the barrel should be pressed somewhat more firmly than after the "sweating" process. He suggested that all shipping and unloading places should be compelled to provide sacks filled with sawdust on which the barrels could be dropped, thus saving the jarring and shaking which is so injurious.

Mr. L. Woolverton spoke forcibly on "Picking and Packing." We should encourage the idea of a distinctively Canadian stamp, and see to it that the expectation raised by the stamp was not belied by the character of the fruit. As a rule, gathering is not commenced soon enough. The middle of September was usually none too early.

Mr. Boulter said Ontario apples were the best in the world, but people should pack more carefully; the reason why prices were so low was that so much poor fruit was put in the barrel. The grower's name should be on every barrel.

Mr. Dempsey contended that the farmers often packed better than the buyers, and that the former were too often blamed for the sins of the latter.

Mr. R. J. Shepherd, of Montreal, Que., gave a good, sound, practical address on exporting apples. He had met with some success in packing his best apples in boxes holding about a bushel. The boxes were divided by pasteboard like the egg packages; each box taking about 196 apples of No. 1 size and quality. He had secured good prices in England for "Fameuse," also for "Luchess" and "Wealthy." The "Fameuse" was liked better than any other apple in the English market. They preferred the name "Fameuse" to that of "Snow." Both apples are the same variety, and originated in France, whence the seed was brought to Quebec.

MR. FISHER'S ADDRESS.

The Hon. Sydney Fisher, who spoke at considerable length, and who was warmly received, said that he had come for the purpose of finding out from the fruit-growers how he could help them. The Government was anxious to give any legitimate assistance in the way of establishing cold storage, etc. Mr. Fisher thought some of the cold

storage transportation experiments had proved that the barrel was not the ideal package; the low temperature did not reach the centre of the barrel quickly enough. Boxes would possibly prove better in this respect. Next season he hoped would see refrigerator cars adopted over the whole railway system, and large cold storage warehouses established at all the great commercial centres. While the Government would do what it could, people must not imagine that wild and large schemes would be rushed into prematurely. It would be better to go to work slowly and tentatively, and keep what they could gain. He spoke of the great export rush this season, and the consequent raising of freights. Next season a large number of vessels would be attracted this way, and we might look for lower rates.

In the discussion which followed Mr. Craig, of the Experimental Farm, Ottawa, said that for the finer fruits boxes were preferable to baskets, as far as cold storage was concerned. Fruits should not be too ripe when placed in cold storage. The chemical system in cold storage was far ahead of the ice, as far as fruit was concerned.

"ORCHARD COVER CROPS."

Mr. Craig's paper on "Orchard Cover Crops" was full of valuable suggestions. Such crops not only protected the tender roots from injuries by frost, but, when plowed under, improved the mechanical texture of the soil, and added to its fertility. Crimson clover, where it could be successfully grown, was the greatest nitrogen producer. He recommended the Michigan practice of sowing oats with the crimson clover to enable the latter to withstand the winter better.

OTHER ADDRESSES.

Principal Grant, of Queen's College, gave a fine, breezy address.

Professor Knight's address on "Organic Evolution" appeared to be somewhat startlingly suggestive to some, but it met with a very cordial appreciation, and we regret that we have not more space to give to it.

The Hon. John Dryden, in a good, stirring speech, commended the association for the good work it had done, and said his Government would be prepared to further its aims just so long as the association was doing work which was helpful to the whole community.

Mr. Pettit, the retiring president, spoke helpfully and practically in his annual address; and Mr. Wellington, the new president, made a few appropriate remarks.

The personnel of the new directorate is much the same as in the past season. The association closed an eminently successful convention by choosing Waterloo for its meeting place in 1897.

BIOGRAPHICAL.

We have pleasure in presenting to our readers portraits of two of the prominent officers of the association—Mr. Murray Pettit, of Winona, the retiring president, and Mr. Linus Woolverton, M.A., of Grimsby, the secretary; also short sketches of their life and work as fruit-growers.

Mr. Murray Pettit, of Winona, the retiring president of the Ontario Fruit-Growers' Association, is one of the most progressive and best known fruit-growers in the Niagara district. He comes of the good old U.E. Loyalist stock that has bred so many stalwart men for Canada. Soon after the Declaration of Independence his grandfather came to Winona, and there, in 1843, in the old homestead, Mr. Pettit was born. Twenty-five years ago Mr. Pettit commenced his horticultural career by planting a peach orchard of eight acres. But in 1879 that dreadful and dreaded enemy

of modern peach-growers—the "yellows"—attacked his orchard, and finally destroyed it. Mr. Pettit at once showed the netal he was made of by taking the most active steps to secure the passage of a "Yellows Act" in the Local House. The best tribute to his zeal and sagacity in this matter is the fact that to-day peach-growers can save their orchards from destruction by "yellows" only by a rigorous enforcement of the provisions of an act which is simply a modification of the Yellows Act of 1881, which Mr. Pettit caused to be introduced. On the destruction of his peach orchard, as above mentioned, Mr. Pettit turned his attention to grapes, and with so much success, indeed, that from that time on his fruit area has steadily increased

(being both a B.A. and an M.A. of the University of Toronto), he never severed his connection with fruit-growing, but immediately on graduation, having received as his share a fourth of the homestead of 400 acres, settled upon it as a farmer, and, gradually giving up grain-growing and stock-raising, devoted his whole one hundred acres to fruit.—Mr. Woolverton has always had great fondness for the study of varieties, and as every year he has been adding to his collection of varieties of apples, pears, plums, cherries, grapes, peaches, currants, gooseberries, etc., etc., he has now the largest collection of fruits to be found upon any one private fruit-farm in Canada.—



Murray Pettit, Winona,
Retiring President, Ontario Fruit-Growers' Association.



Linus Woolverton, M.A., Grimsby,
Secretary, Ontario Fruit-Growers' Association.

until, at the present time, it comprises about sixty acres, chiefly in grapes, though there are, of course, many other choice fruits. The many public offices which Mr. Pettit has held show that every association organized for the purpose of advancing horticultural or agricultural knowledge has had his active support and sympathy. In 1894, after a long term of service on the directorate of the Ontario Fruit-Growers' Association, he was elected president of that body, and for two years discharged the duties of the office with conspicuous ability, and to the marked satisfaction of the members of the association. In 1894, too, Mr. Pettit was selected to take charge of one of the Ontario Fruit Experiment Stations; his station, which represents the Wentworth district, being largely devoted to the testing of grapes.

Mr. LINUS WOOLVERTON, M.A., the secretary of the Ontario Fruit-Growers' Association, was for a long time one of our most popular institute workers, his specialty, of course, being fruit culture. Mr. Woolverton was born and brought up on one of the oldest fruit farms in Ontario. (The first apple trees on his father's farm were planted as long ago as 1790, and some of these century-old apple trees are still bearing good crops.) He was early trained in practical orcharding and nursery work, and, although favored with a good high school and college edu-

In 1877 Mr. Woolverton succeeded Mr. D. W. Beadle as secretary of the Ontario Fruit-growers' Association, and editor of *The Canadian Horticulturist*, and in 1894 he was appointed by the Department of Agriculture as secretary of the Ontario Fruit Experimental Stations. The successful working of the large and complicated system of experiments which this system involves depends largely upon Mr. Woolverton's directions.—Previous to this last appointment Mr. Woolverton was much engaged every year in addressing Farmers' Institutes, his subjects embracing every sort of topic connected with farm fruit-growing, but his fast increasing duties connected with the Fruit-growers' Association and the Fruit Experiment Stations, have, since his appointment, prevented him from taking an active part in institute work.

Mr. M. D. KITCHEN, Rosseau, Ont., having changed his place of residence, and, in consequence, missed some copies of *FARMING*, writes: "I would like to have you send me the four back numbers, and I will pay you whatever you may charge for same. As I am very much pleased with the numbers received, I would like to have the others."

THE PROVINCIAL WINTER SHOW, AND OTHER MEETINGS AT GUELPH.

Specially reported for FARMING.

I. THE PROVINCIAL WINTER SHOW.

The thirteenth annual Ontario Provincial Winter Show, held in Guelph on the 8th, 9th, and 10th of December, 1896, under the auspices of the various live stock and dairy associations, the Fat Stock Club, the city council, and the Board of Trade of the city of Guelph, and of the Ontario Agricultural College, has been pronounced the best show of its kind ever held in Canada.

The number of entries ran up to over six hundred, which is greatly in excess of previous years, and the commodious Victoria Rink was taxed to its utmost to provide accommodation for all the exhibits. Never before has there been such a fine lot of fat stock gathered together at Guelph. The high quality of the exhibits, especially in the sheep classes, was commented upon by many. The management are to be congratulated on the magnificent success of the show. The splendid meetings of the various breeders' associations, the public meeting in the city hall, the annual dinner, the meeting of the Experimental Union at the Ontario Agricultural College, and the presence of two Ministers of Agriculture at these gatherings, all tended to the success of the show, and to make the week one of the most important of the year.

The Fat Cattle.

The entries in the cattle classes were greatly in excess of those of last year, while the quality was equally good. There were nearly as many fat cattle present as there were at the New York show; the quality would compare very favorably also, though the "toppers" at New York were of better quality than those at Guelph. The Shorthorns and their grades made up the larger number of animals, though the Herefords, Polled Angus, Galloways, and Devons were well represented. The judges, Thomas Crawford, M.P.P., Toronto, and James Smith, Brantford, selected the prize-winners with a rapidity and precision that denoted a thorough knowledge of good fat beef. The judging was done more than ever from a butcher's than a breeder's standpoint, greater value being placed on those animals that would kill to the best advantage, and that carried a wealth of flesh in the most valuable places, rather than on fancy points, so pleasing to a breeder's eye, yet not productive in dollars and cents.

SHORTHORNS.—The exhibitors in the class for registered Shorthorns were: H. & W. Smith, Hay; J. & P. Crerar, Shakespear; R. J. Robinson, Ailsa Craig; J. Oke & Sons, Alvinston; John Fried, Roseville; Joseph Kirby, Armstrong's Mills; A. & F. Bolton, Armstrong's Mills; William Dredge, Nassagaweya; Robert Talbot, Eramosa; W. J. Rudd, Eden Mills; and Isaac Groff, Elmira.

In the section for steers two years and under three, H. & W. Smith had the only entry, a blocky, thick fleshed steer that would have stood some competition. Three fine animals entered the ring in the yearling class. First place was quickly given to an ideal butcher's animal, Duke, a red roan shown by Mr. Groff. He is a typical butcher's steer, and was greatly admired. He was not highly fitted, but his flesh was so smooth and firm, so well distributed in the most valuable places, his coat so mossy, and his style so pleasing, that he was an easy winner. However, through some irregularity in regard to the entry, a protest was entered, he was ruled out, and first place then went to H. & W. Smith's Bruce, by Abbotsford, a white, low-set, blocky, thick-fleshed steer; and second place was taken by J. Kirby's Guelph Warrior. There were five good entries in the calf class. First place went to Barney, a thick-fleshed, good-backed animal shown by A. & F. Bolton; Clipper, shown by John Fried, was placed sec-

ond; with J. Oke & Sons' Rob Roy third. The section for cow or heifer three years and over brought out a strong ring that gave the judges some trouble, and Mr. Russell was called in to decide. First place was ultimately given to R. J. Robinson's Constance 4th, an exceedingly well-finished animal; second place went to Bessie, a thick-fleshed, mossy-coated heifer of R. Talbot's (really the more profitable butcher's animal); while third place went to Crerar's Rosabel, a general favorite, and one that many thought would have taken a higher place, but she was not as highly finished as Constance 4th. The two-year-old section brought out two outstanding good ones, John Fried's Roseville Fancy, a thick-fleshed, well-ripened heifer, and one of the very best animals at the show, and Gowan 2nd, a firm, even-fleshed entry of Messrs. Smith's. They were placed in the order named, and third place given to Crerar's Indian Princess. The yearlings were represented by only one entry, J. Fried's Oxford Rose, a good one, and one that would have stood strong competition.

SHORTHORN GRADES.—The section for two years and under three brought out a good lot. First place went to Clinker, shown by W. H. Nichols, of Hamilton. Clinker was a general favorite; he was first as a calf in 1894, weighing 990 lbs. at 11 months; first as a yearling in 1895, weighing 1,730 lbs. at 22 months; and first again in 1896, weighing, at 2 years and 11 months, 2,275 lbs. He was bred by D. D. Wilson, of Seaford, and is a splendid example of the early-maturing ability of the Shorthorns. Although he was so big, yet there was no coarseness about him, but a wealth of smooth, firm, thick flesh. He was a veritable mountain of flesh, and was sold for \$200. Mr. Leask's Jack won second place. He is a particularly good steer, well proportioned, good level quarters, loin deeply covered, a mellow hide, and an animal that will kill with a very small percentage of waste. Third place went to Mr. Leask also, for an animal of very much the same type, but not so good in the back, or so thickly fleshed. In the yearling section Mr. Rennie's roan, Captain, was placed first. He weighed 1,600 lbs.; he is very evenly fleshed, and in form is very near a perfect type. A very good second was found in Mr. D. Stewart's Everton Lad, and R. J. Robinson won third money with a good red steer, Billy, by Indian Wing. The section for steer calves was a very strong one, there being seven entries. Mr. J. Fried won first place with a deep-bodied, promising young animal; second place went to a neat, compact, even-fleshed animal shown by John Campbell; and third to Mr. Leask's Jumbo, a son of Moneyfuffel Lad.

The above prizes for Shorthorn grades were given by the Dominion Shorthorn Breeders' Association. The sweepstakes for best registered Shorthorn steer went to J. Groff's Duke, but, not being able to give satisfactory proof that he was eligible for registration, he was ruled out, and the award was given to Messrs. Smith's Bruce.

HEREFORDS AND POLLED ANGUS.—These two breeds were classed together, and animals were shown by F. W. Stone Estate, Alfred Stone, Hugh McDougal, and James Bowman, all of Guelph. Taken as a class, they were not nearly so highly finished as the Shorthorns were, though there were a number of splendid representatives shown. In the two-year-old section Mr. A. Stone's heifer (Hereford), a short-legged, smooth, firm-fleshed animal, was placed first; second went to Hugh McDougal's Blooming Rose (Polled Angus); and third to J. Bowman's Heather Belle (Polled Angus). In the yearling section first and second went to the F. W. Stone Estate, and third to a heifer shown by J. Bowman. In calves Mr. Bowman secured first and the Stone Estate second and third. For best cow or heifer three years and over, James Bowman's Mysie and, a ten-year-old cow, long, deep, and very evenly fleshed, was placed first, and a very typical animal of Alfred Stone's was placed second.

GALLOWAYS AND DEVONS.—These two breeds showed together. They also were not in as high condition as one expects to see at a fat stock show, but there were some good animals among them. The Galloways were shown by Messrs. David McCrae, Guelph, and James Yule, Elder's Mills; the Devons by Mr. W. J. Rudd, Eden Mills. In the two-year-old section there were five entries. D. McCrae secured first for Semiramis E., a deep-fleshed, good handling animal, and third for Chitroy; W. J. Rudd secured second place with Look Out. D. McCrae won

first for yearling, W. J. Rudd second, and J. Yule third. Calves—McCrae first, Rudd second. D. McCrae was to the front again for three-year-old cow or heifer, with Lady Cumloiden; he also won third, and J. Yule second.

GRADES OF ANY BREED.—The awards in the sections for steers are the same as for Shorthorn grades, the prizes being given by the winter show. The competition was strong for first place in the three-year-old and over section for cows or heifers. A five-year-old cow, White Blossom, shown by Mr. Oke, was placed first; she carried a good weight of flesh, and was well fitted; second place went to Mr. Bowman's Dinah, a six-year-old cow, and a good one, in of her age; third place was given to James Yule's seven-year-old cow, that has won so many prizes in the show ring at the leading fairs. Mr. Leask brought out a ten-year-old cow in good shape, but her age was against her. In the two-year-old class Mr. Rennie's Water Lily, a low-set, blocky, well-finished heifer, was placed first, Mr. P. Stewart's Lillie second, and J. Oke & Son's Red Rose third. First place in the yearling section went to Oke's Lassie, a very sweet, even-fleshed, well-fitted heifer; second place to Rennie's Susie, and third place to an entry of James Ruddick.

THE CHAMPIONSHIP.—The call for the championship brought out the first-prize animals in nearly all the sections. They were all turned back, however, but seven: Nichol's Clinker, Rennie's Captain and Water Lily, Fried's Roseville Fancy, Groff's Duke, Robinson's Constance 4th, and Bowman's Mysie and. They made a grand sight. The people gathered around the ring and in the gallery, all greatly interested in the judges' decision. It was soon seen that only three animals were in the race—Clinker, Captain, and Water Lily. Each animal had supporters for first place, and when the red ticket was awarded to the handsome Clinker a lusty cheer went up from his friends. The people immediately climbed into the ring to look at the animals, and Clinker, covered with a banner displaying the fifteen prizes he had won, was thoroughly inspected. He went to St. John, N.B., for Christmas beef.

The Dairy Test.

The dairy test, started at the show last year, is meeting with good support. In all, twenty cows were entered. The following are the awards:

JERSEYS.—Over 36 months—1st, Ellen of Oakdale, and 3rd, Signal Rosa May, J. H. Smith & Son, Highfield; 2nd, Corinne of Don, B. H. Bull & Son, Brampton. Under 36 months—1st and 2nd, Ida and Queen of Highfield, J. H. Smith & Son.

AVYRESHIRE.—Over 36 months—1st, Dandy, Naaniam Denton, Clappison; 2nd, Pauline Hall; 3rd, Guria, W. M. & J. C. Smith, Fairfield Plains. Under 36 months—1st, Rose Morton, Wm. Thompson, Rockton.

HOLSTEINS.—Over 36 months—1st, Calamit; Jane, and 3rd, Catholine, A. & G. Rice, Currie's; 2nd, Edgley Frena, A. Hoover, Emery. Under 36 months—1st, Iolena of Fairmount, and 2nd, Bright Promise, A. & G. Rice.

GRADE COWS.—Over 36 months—1st, A. & G. Rice; 2nd, T. R. Grieve, Guelph; 3rd, T. H. Dent, Woodstock. Under 36 months—1st, Jas. Hurley, Guelph.

BEST DAIRY COW, ANY AGE, BREED, OR GRADE.—First, Calamity Jane, for which she received the following prizes: A plow, valued at \$15, donated by the Wilkinson Plow Co., of Toronto; \$25, by the American Holstein-Friesian Association, and \$25 by the Canadian Holstein-Friesian Association. Second, Edgley Frena, winning a cultivator valued at \$10, donated by Thom's Implement Works, Watford, \$15 from the American Holstein-Friesian Association, and \$15 from the Canadian Holstein-Friesian Association. Ten dollars, given by the Canadian Holstein-Friesian Association, for third best registered Holstein, goes to A. & G. Rice's Catholine.

Sheep.

Too much cannot be said in praise of the sheep at the show this year. One prominent breeder said it was the best show of fat sheep ever seen on the continent, and that it was away ahead of the New York show. The number of entries was larger than ever before, and the quality of the sheep could not be surpassed.

LINCOLNS.—Though only two breeders exhibited in this class, the competition was exceedingly keen. Messrs.

Gibson & Walker, of De-⁴field, brought out a lot of very highly fitted animals, which won new laurels for the breed and splendid fame for their breeders. Mr. Wm. Oliver, Avonbank, the other exhibitor, also showed a lot of high-class, characteristic animals, which made the judging very difficult work, so even were the animals. In the ewe sections Gibson & Walker won first and third places, the second places going to Wm. Oliver. The first-named breeders secured first and second place for shearing wethers; third place went to a fine entry of J. Rutherford, who had only one entry in this class. For wether lambs Gibson & Walker secured first, Wm. Oliver second and third. Mr. Oliver won for best pen of three wethers, Gibson & Walker having to be content with second and third places.

Judges.—E. Parkinson, Eramosa, and J. Gaunt.

COTSWOLDS.—Six breeders showed representatives of this famous breed. First place for shearing ewe was given to J. G. Snell, Snelgrove, for a very superior imported ewe; second place was also secured by Mr. Snell; and J. Park & Son, Burgessville, had to be content with third place. In the ewe lamb section seven animals faced the judge. They were a strong class. First place went to an outstanding good one of Mr. Park's; second and third prizes were secured by Mr. Geo. Weeks, Glanworth. Only three wethers answered the call for shearlings. First place was given to a very large, well-finished animal shown by the veteran feeder, John Rutherford, Roseville, and Mr. W. E. Wright, Glanworth, was awarded second and third places for two very good animals. Mr. Park had a prime lot of wether lambs to the front, and captured all the prizes; he also secured first place for the pen of three wether lambs, Mr. Snell securing second place.

Judges.—W. Thompson, Uxbridge, and J. Caunt, St. Helens.

LEICESTERS.—The exhibitors were: John Kelly, Shakespeare; J. S. Smith, Maple Lodge; A. & W. Whitelaw, Guelph; Orr & Lillico, Galt; and John Rutherford. Four very well-finished ewes answered the call for shearlings. They were a difficult lot to judge because so very even, but the awards were finally made; first to Kelly, second to Whitelaw, and third to Smith. Mr. Kelly's entry was in very high condition. Ewe lambs were a very strong, well-fleshed class, one of the strongest classes at the show. Whitelaw won first, and Kelly second and third. Mr. Kelly won first for shearing wethers and wether lambs, two excellent sections; second place in each section went to Orr & Lillico, who also secured third for wether lamb; third for shearing wether went to John Rutherford. In the section for best three wether lambs, Orr & Lillico won first place and Kelly second.

Judges.—J. Gaunt and W. Thom, son.

OXFORDS.—Last year there was no class for Oxfords, but the introduction of a separate class for them brought out representatives from the flocks of Smith Evans, Gonrock; Peter Arkell, Teeswater; and J. H. Jull, Mount Vernon. W. E. Wright and J. Rutherford showed in the wether sections. Though the numbers were not large the quality was good and the competition keen. The competition in the section for shearing ewes was made interesting by the presence of the Industrial shearing winner. She and her mate won first and third, and were shown by J. H. Jull, who purchased them from Smith Evans since the Industrial Fair. Mr. Evans had to be content with second place, but it was no walk-over. Ewe lambs were a good lot; first went to Evans, second to Jull, and third to Arkell. The awards in shearing wethers were, first, W. E. Wright; second, Rutherford; third, Arkell. In wether lambs Jull was first and Rutherford second. Rutherford had the only entry for the pen of three wether lambs.

Judges.—Henry Arkell, Teeswater; J. Miller, Markham.

SHROPSHIRE.—This well-tried breed were out in goodly numbers. The quality and finish were all that could be desired, and the animals were well brought out. The contest excited a good deal of interest because of the presence of the flocks that had done so well at the New York Show. There were present representatives from the flocks of John Campbell, Woodville; W. H. Beattie, Wilton Grove; R. Gibson, Delaware; F. G. Hammer & Sons, Mount Vernon; W. E. Wright, Glanworth; and J. Rutherford. In the shearing ewe section there were five entries that were perfect models of the breed. First place was given to Campbell's ewe that won first in her class at New York and the fall fairs. She is out of a winner of three fairs at the World's Fair and sired by Newton Lord, the World's Fair champion. She is a ewe of very high quality, compact form, and a typical mutton sheep that is hard to improve upon. She weighs about 250 lbs. Second place went to her mate, another grand ewe, while Beattie won third place with

a well-fitted one. Messrs. Hamner had a splendid pair of ewes forward that did them credit. In ewe lambs Campbell's entries were placed first and second, and third place went to Hamner. In shearing wethers the contest was renewed between Campbell's imported Perfection and Gibson's Quantity. At the New York Show Gibson's entry was placed first and Campbell's third. Here the judge reversed this, placing Campbell's first, Gibson's second, and one of Hamner's third. The call for wether lambs brought out a round dozen, out of which a half dozen could be picked that would test any judge's ability. Gibson's lambs won first and second at New York, and here they won first and third, Messrs. Hamner securing second place. Gibson's entry of three wether lambs was an outstanding first. Hamner received second and Wright third place.

Judges.—T. M. Whitesides, Innerkip, and Henry Arkell.

SOUTHDOWNS.—In point of numbers this class excelled any of the others, as every section was well filled, and they had the honor of winning the award for best sheep any age, breed, or grade. John Jackson, Abingdon, and T. C. Douglas, Galt, were the most successful exhibitors, or, in other words, their entries were better fitted. Good exhibits were also made by W. H. Beattie, A. Teller & Son, Paris; Geo. Baker & Son, Simcoe; A. Simenton & Son, Blackheath; and Thos. W. Smith, Glanford. Mr. Jackson secured first and second places with a pair of well-fitted ewes, third place going to T. C. Douglas. Jackson was again first and second with two splendidly finished lambs in a very large strong ring; Douglas again secured third place. In the shearing wether section, out of a large entry, W. H. Beattie had an outstanding first in Bond Orr, and Douglas was awarded second and third for two ripe fellows. In wether lambs Douglas captured all the money prizes, also first and second for pens of wether lambs; third place for trio went to Baker.

Judges.—J. Miller and H. Arkell.

DORSETS.—Mr. R. H. Harding, of Thorndale, had out a lot of well-fitted sheep, and secured first and second places in each section. Mr. James Bowman, Guelph, also showed three representatives of this breed and secured a place for each.

Judges.—T. M. Whitesides and H. Arkell.

HAMPSHIRE AND SUFFOLKS.—These two breeds showed together. Mr. Kelly, Shakespeare, won first for shearing ewe, and first, second, and third in the ewe lamb section with well-fitted Hampshires. Mr. W. J. Rudd, Eden Mills, secured second place for a well-fitted shearing ewe. In the wether sections Mr. Rutherford had it all his own way.

Judges.—Same as for Dorsets.

GRADES.—The sections of this class were very well filled, principally with Shropshire, Lincoln, and Leicester grades. The Shropshires got rather the best of the other grades. In the section for shearing ewes there were two good entries. Campbell and Wright had each a low-er and well-finished animal. Campbell secured first, Wright second, and Orr & Lillico third place. In ewe lambs the entry was large, with the Shropshires again to the front, Campbell winning first over two splendid Lincolns of Gibson & Walker's and Oliver's, which took second and third places. In the section for shearing wethers there was a very large, strong ring. It was now the turn of the Lincolns to be on top with a large, well-fitted fellow from the flock of Gibson & Walker; Campbell scored next, then Kelly. Campbell won first and third places, and Orr & Lillico second place for wether lambs. For best three wether lambs the awards were, first, Campbell, Orr & Lillico second, and Rutherford third. Gibson & Walker won first place for best grade sheep under two years.

Judges.—Wm. Thompson and T. M. Whitesides.

SPECIALS.

BEST SHEEP ANY BREED, GRADE, OR AGE.—The prize was a Spramotor No. 1, offered by the Spramotor Company, 307 Richmond street, London. Twenty-one animals answered the call and lined up for inspection. It was a grand sight, but they were soon culled out to three—Campbell's shearing Shropshire ewe, Kelly's Leicester ewe, and Beattie's Southdown shearing wether. The judges disagreed, and R. Gibson decided for Beattie's Southdown wether.

THE COOPER CUP.

BEST SHEEP BREED BY THE EXHIBITOR.—Messrs. Wm. Cooper & Nephews, of Galveston, Texas, manufacturers of the famous Cooper sheep dip, offered for the fourth

time the sterling silver cup, valued at \$100, as a sweepstakes prize for the best sheep bred by the exhibitor. To become final owner, an exhibitor must win the cup twice in succession or on three separate occasions. It was won in 1893 by Mr. Henry Arkell, of Arkell, with an Oxford ewe; in 1894 by Mr. John Campbell, Woodville, with a Shropshire ewe lamb; in 1895 by Gibson & Walker, Denfield, with a Lincoln wether, 19 months, weight 315 lbs. The contest for it this year was keen, but Messrs. Gibson & Walker made sure work of it, for they had a shearing ewe, a ewe lamb (weight 200 lbs.), both sired by Riby Conqueror 503, and a grade shearing wether, any one of which could have won it. Messrs. Gibson & Walker now become the proud possessors of the cup, having won it twice in succession.

Swine.

The exhibit in this department was very good. The number of entries was larger than ever before, and the quality all that could be desired. There were not so many animals shown this year so loaded with fat as to be positively useless unless for soap grease as there have been in the past. This is a step in the right direction. It has been suggested that the prize list should read "best bacon" instead of simply "best," because the show should assist in developing the type of an animal wanted by the packers and shippers, one in which there is the most money for the producer, and should not foster the old plan of loading a pig with all the fat he can carry.

BERKSHIRES.—Mr. J. G. Snell, Snelgrove, had about seventeen animals present, a truly fine lot of animals. His only competitor was John Ketching, of Corwlin, who had only one nine months barrow present, for which he secured third place. Mr. Snell, of course, had the rest all his own way. His animals were of superior merit, as he secured the sweepstakes for best sow of any age or breed, and a fine barrow was placed second for best barrow any age or breed.

Judges.—Thos. Teasdale, Concord, and J. M. Hurley, Belleville.

YORKSHIRES.—These were represented by two well-known breeders, J. E. Brethour, Burford, who had forward only five head, and they were not as highly fitted as would be expected from Oak Lodge; and Joseph Featherston, Streetsville, who had some eleven head present, and a new exhibitor who was present with some eight fine animals. This was Mr. Henry Deddels, of Kossuh, who had one pen containing three head that attracted a great deal of attention. His pigs were fine finished and possessed great length and depth, splendid bone and good backs. The following were the awards:

Barrow, nine months and under fifteen—1st and 2nd, Henry Deddels; 3rd, Joseph Featherston. Barrow, six months and under nine—1st, Henry Deddels; 2nd and 3rd, J. Featherston. Sow, nine months and under fifteen—1st, Henry Deddels; 2nd and 3rd, J. Featherston. Sow, six months and under nine—1st, H. Deddels; 2nd, J. E. Brethour; 3rd, H. Deddels. Sow or barrow, under six months—1st, J. Featherston; 2nd, H. Deddels. Three pigs, offspring of sow bred by exhibitor—1st, H. Deddels, 2nd, J. E. Brethour; 3rd, H. Deddels.

Judges.—Same as for Berkshires.

CHESTER WHITES.—There were only two exhibitors—Wm. Butler & Son, Dereham Centre, and R. H. Harding, Thorndale. The number of entries was not so large as last year, but the quality was considerably better. Mr. Butler secured the most valuable prizes. Harding showed only three animals and secured second place for barrow under fifteen months, second for barrow under nine months, and third for sow or barrow under six months. Messrs. Butler had one or two exceptionally fine animals present. Laura, the first prize sow for under fifteen months, weighed about 500 lbs, and was a lengthy deep sow of good bone and quality. Their younger sows were good also, so was Small Boy, the first prize barrow under fifteen months.

Judges.—J. E. Brethour and Jos. Featherston, M.P.

POLAND CHINAS.—Only two breeders exhibited—W. & H. Jones, Mount Elgin, and W. M. & J. C. Smith, Fairfield Plains. Messrs. Smith were the only exhibitors in the fifteen months' barrow section, but their two entries, Jim and Dandy, were good ones. For barrows under nine months Messrs. Jones were first and third, Messrs. Smith second. In the section for sows under

fifteen months the Mount Elgin herd had two magnificent entries, Lady Darkness and Black Perfection. Lady Darkness is a last September pig and weighs 533 lbs., and by many was thought deserving of sweepstakes honor as best sow. Messrs. Smith won only third place in this section. Messrs. Jones won first and second again for sow under nine months with Gracelul Queen, a full sister to Lady Darkness, and Maud; Messrs. Smith were awarded third place. For barrow or sow under six months Messrs. Smith won first and second, and Messrs. Jones third place. Messrs. Jones were awarded first and second places for pens, and Messrs. Smith third place.

Judges.—Same as for Chester Whites.

TAMWORTHS.—The exhibitors were H. George & Sons, Crampton; A. C. Hallman, New Dundee; and Andrew Elliott, Galt. Mr. Elliott had it all his own way in the older barrow section, but he had two animals that would have stood some competition. Mr. George had two nice smooth pigs in the next section, and secured first and second. He was also awarded the first and second places in the section for sow under fifteen months for George's Best and Concord Princess, two noted prize-winners; Mr. Hallman was awarded third place in this class. In the sections for sow under nine and barrow or sow under six months, Mr. George won first and second places for long, good-backed animals. Mr. Hallman was awarded third place in the latter section. Mr. Elliott won first place in the pen prize for very large well-grown pigs; second place went to Mr. George.

Judges.—Same as for Berkstures.

DUROC-JERSEYS.—The two leading herds of this breed were well represented and well brought out. The number of entries was about double those of last year and the quality equally good. Dandy Boy and Ona Boy, Wm. Butler & Son's entries for barrows under fifteen months, were two extra good ones, the former being considered by many the best Duroc-Jersey on the grounds. They had no competition. For barrows under nine months Messrs. Tape Bros., of Ridgetown, were first and second for Silverite and Gold Bug, two well-finished animals, with Butler third. For sows under fifteen months Tape Bros. were first for Sally, a deep, thick-fleshed sow; and Butler & Son second and third for Queen Anne and Favorite, two typical sows. Tape Bros. were first and second again for sows under nine months, with Butler & Son third for a good lengthy sow, but not quite so fat. For sow or barrow under six months the order was the same as the last. Pen prize for best three pigs, offspring of one sow, went to Tape Bros.; second to Butler & Son.

Judges.—Same as for Chester Whites.

SUFFOLKS AND ESSEX.—These two breeds showed together, and the prizes were pretty well divided. Mr. R. Dorsey, Burnhamthorpe, showed eight Suffolks, and Mr. Joseph Featherston, Streetsville, showed four Suffolks and six Essex. The following are the awards:

Barrow, nine months and under fifteen—1st and 3rd, Joseph Featherston; 2nd, Robert Dorsey. Barrow, six months and under nine—1st and 2nd, Joseph Featherston. Sow, nine months and under fifteen—1st and 3rd, Robert Dorsey; 2nd, Joseph Featherston. Sow, six months and under nine—1st, Joseph Featherston; 2nd and 3rd, Robert Dorsey. Barrow or sow, under six months—1st and 2nd, Joseph Featherston; 3rd, Robert Dorsey. Three pigs, offspring of one sow—1st, Robert Dorsey; 2nd, Joseph Featherston.

Judges.—Thos. Teasdale and James Main.

GRADES.—The exhibit in this class was not as good as that of previous years. The awards were as follows: Barrow, nine months and under fifteen—1st, J. G. Snell; 2nd, Robert Agnew, Acton. Barrow, under nine months—George Sleeman, Silver Creek Brewery, Guelph, 1st and 2nd; A. F. Bolton, Armstrong's Mills, 3rd. Sow, nine months and under fifteen—1st, W. & H. Jones; 2nd, Robert Agnew. Sow, under nine months—1st, J. G. Snell; 2nd, George Sleeman; 3rd, W. & H. Jones.

SWEEPSTAKES.—A representative of each of the following breeds entered for sweepstakes: Berkshire, Yorkshire, Poland-China, Duroc-Jersey, and Suffolk. First place went to Mr. H. Deddel's Yorkshire, Waterloo Sweepstakes, by Canadian Pride, dam Chicago Midge. Mr. Snell had a very good second. The sweepstakes prize for best sow went to a very fine entry of Snell's, Snelgrove Belle, by Baron Lee. Many thought Lady Darkness, shown by W. & H. Jones, was more deserving of first place, as she was about as near perfection as she could be.

II. THE DOMINION CATTLE BREEDERS' ASSOCIATION.

The sixth annual meeting of the Dominion Cattle Breeders' Association convened in the City Hall, Guelph, December 7th, 1896.

Mr. John I. Hobson, president of the association, in opening the meeting, called attention to the benefits derived by cattlemen during the year from the fact that they were organized. They had obtained certain modifications of rates from the railways, and in their dealings with the companies they had been treated with very much greater respect as representatives of a powerful organization than they would be as representatives of single stock interests.

The officers had also waited on the Dominion Government in reference to quarantine regulations and the recognition of Canadian records in American herdbooks, and had again found that they were a force from the fact that they represented a very large association.

He read a letter from Hon. Sydney Fisher, Minister of Agriculture, asking the association to pass resolutions stating what modifications they desired in the tariff, and also to appoint a deputation to appear before the Tariff Commissioners and present the views of the cattle breeders. Messrs. Hobson, Johnston, McCrae, Snell, and Alexander Smith were appointed a committee to deal with this matter.

Mr. David McCrae brought up the question of freight charges on pedigreed cattle, in accordance with a request from Hon. Mr. Fisher for opinions as to the fairness of the present charges and classification. The meeting was of the opinion that the railway companies were now treating the live stock men more justly than ever before, but that much remained to be done before the Ontario railways came up to those of the Northwest, where thorough-breds are carried at half rates. In some particulars it was thought that the rates were unreasonable.

A resolution was adopted declaring that the regulations requiring a man to accompany lots of less than a carload on trips over 100 miles was unreasonably oppressive, and a hindrance to the development of the cattle trade of the country. The whole question was referred to the Transportation Committee, with instructions to report as soon as possible.

The questions of quarantine and recognition of Canadian records in American herdbooks were disposed of in the following resolution:

"Moved by Mr. J. C. Snell, seconded by Mr. Arthur Johnston, that, believing that contagious pleuro-pneumonia is not at present existing in either the United States or Canada, this association is of the opinion that as long as these countries are free from contagious diseases, cattle of all kinds should be admitted to either country without quarantine, but after careful and efficient veterinary inspection under such regulations as may be mutually agreed upon between the two countries; also that the Government urge on the Secretary of Agriculture for the United States the necessity of doing away with the present rule of the U. S. Customs Department of not acknowledging pedigrees recorded in the Canadian herdbooks, inasmuch as our standard is equal to, and in some cases higher than, the American one." This was carried unanimously.

The following resolution was passed: "That this association respectfully memorialize the Minister of Agriculture for the Dominion Government to appoint to the position of Agriculturist at the Central Experimental Farm not only a practical farmer, but also a man thoroughly in touch with and acquainted with the needs of the live-stock raisers of the country, and that a copy of this resolution be at once forwarded to the Hon. the Minister of Agriculture for the Dominion."

The election of officers resulted as follows: Honorary president, Hon. Thomas Ballantyne, Stratford; president, Mr. John I. Hobson, Mosboro'; vice-president, Mr. J. C. Snell, Snelgrove; secretary-treasurer, Mr. F. W. Hodson, Guelph; vice-presidents (representing the various provinces), Ontario, Mr. Henry Wade; Manitoba, Mr. John E. Smith, Brandon, Man.; Northwest Territories and British Columbia, Mr. George H. Greig, Winnipeg, Man.; Quebec, Mr. H. D. Smith, Compton, Que.; Nova Scotia, Lieut.-Col. W. M. Blair, Nappan, N.S.; New Brunswick, Mr. Julius Inches, Fredericton, N.B.; Prince Edward Island, Mr. F. G. Bowyer, Georgetown, P.E.I.; auditors, Messrs. D. McCrae, Guelph, and James Russell, Richmond Hill; directors, Shorthorns, Mr. A. Johnston, Greenwood; Herefords, Mr. Alf. Stone, Guelph; Polled Angus, Mr. Jas. Bowman, Guelph, Galloways, Mr. D. McCrae, Guelph; Ayrshires, Mr. Jas. McCormick, sen., Rockton; Holsteins, Mr. G. W. Clemons, St. George; Jerseys, Capt. William Rolph, Markham; Guernseys, Hon. William Mulock; Devons and Sussex, Mr. W. C. Edwards, M.P., Rockland; Ontario Agricultural College, Mr. G. E. Day, B.S.A., Guelph. Representatives to the Fair Board: Toronto, Messrs. A. Johnston and G. E. Day; Ottawa, Messrs. J. G. Clark, Ottawa, and Joseph Yuill, Carleton Place; London, Mr. Richard Gibson, Delaware and Captain T. E. Robson, Ilderton.

III. THE DOMINION SHEEP-BREEDERS' ASSOCIATION.

The ninth annual meeting of this association convened in the City Hall, Guelph, on December 9th, 1896, President James Tolton in the chair.

The meeting was a very satisfactory one, there being a larger attendance than at any previous meeting, and lively and profitable discussions took place. Before the regular business commenced, a motion was carried that the association meets again not later than February 10th, the place of meeting to be decided on by the committee.

The Minister's circular letter (see report of Dominion Cattle Breeders' Association) was then taken up, and was followed by a prolonged discussion. Mr. Hobson strongly favored a committee being appointed to look into the matter, as it could not be satisfactorily handled in such a large meeting.

A motion finally carried appointing the president, vice-president, Mr. Campbell, and Mr. Alex. Smith a committee to meet the Tariff Commission.

A general discussion was then entered upon, in which many of those present took part. It was moved by Mr. A. Smith, seconded by Mr. James Russell, that this association respectfully memorialize the Minister of Agriculture in the Dominion Government, requesting him, when appointing an agriculturist for the Dominion, to appoint not only a practical farmer, but also a man thoroughly in touch

with and acquainted with the needs of the live-stock raisers of the country. The motion was adopted.

The resolution adopted by the Cattle-Breeders Association urging the removal of the quarantine on cattle entering Canada from the United States and *vice versa* was endorsed.

The election of officers resulted as follows: President, Mr. James Tolton, Walkerton; vice president, Mr. D. G. Haumer, Burford; secretary-treasurer, Mr. F. W. Hodson, Guelph. Directors: Cotswolds, Mr. J. C. Snell, Snelgrove; Leicesters, Mr. Alex. Smith, Maple Lodge; Southdowns, Mr. John Jackson, Abingdon; Shropshires, Mr. R. Gibson, Delaware; Oxfords, Mr. Henry Arkell, Arkell; Hampshires, Mr. John Kelly, Skakespeare; Lincolns, Mr. John Gibson, Denfield; Dorsets, Mr. R. H. Harding, Thornedale; Merinos, Mr. W. M. Smith, Fairfield Plains; General Director, Mr. John I. Hobson, Mosboro'; auditors, Messrs. George E. Day, O.A.C., Guelph, Andrew Whitlaw, Guelph; delegates to Fair Boards: Toronto, Mr. James Russell, Richmond Hill, and Mr. J. C. Snell, Snelgrove Ottawa, Mr. J. Yuill, Carleton Place; Montreal, Mr. Daniel Brims, Athlestan, Que.; London, Mr. R. H. Harding, Thornedale, and Mr. Alex. Smith, Maple Lodge; Kingston, Mr. Alf. Brown, Picton; Peterboro, Mr. Robert Vance, Ida; Belleville, Mr. J. M. Hurley, Belleville.

Messrs. Gibson, Russell, and Snell were appointed a committee to inquire into the present whereabouts of the Prince of Wales' prize fund formerly administered by the Agriculture and Arts Association.

The election of delegates to fair boards brought out some warm discussion, as it was pointed out that things were done in an unsatisfactory way at some of the fairs. A committee, consisting of Messrs. R. Gibson, John Campbell, and D. G. Haumer, was appointed to devise more suitable plans for selecting judges for county and township fairs.

IV. THE DOMINION SWINE-BREEDERS' ASSOCIATION.

The eighth annual meeting of this association was held in the City Hall, Guelph, December 10th, 1896. There was a large attendance, and President J. E. Brethour occupied the chair.

Reports were read from the delegates to the different fair boards, and accepted.

A committee was appointed to wait upon the Tariff Commissioners and place before them the views of the swine-breeders in relation to a rearrangement of the duties affecting their interests. The committee consists of President Brethour, and Messrs. Gibson, Featherston, and Jones.

A resolution was introduced by Messrs. Harding and Hood emphasizing the necessity of a change in the system of entries at the large exhibitions, and urging the necessity of changing the present method of charging for individual entries to a charge for the space occupied. The resolution provoked considerable discussion, and a committee was formed to draft a set of rules for the guidance of the several delegates to the fair boards.

It was suggested that a section should be added to the prize list in each class at the fall fairs for a type of pigs most suitable for the demands of the English market. The suggestion was generally approved, and will probably be acted upon.

The following resolution was unanimously adopted: Moved by Mr. Geo. Green, seconded by Mr. Thos. Teasdale, "That the Dominion Swine-Breeders' Association, in their annual meeting assembled, respectfully petition the management of the Toronto Industrial Exhibition to provide suitable accommodation for the swine exhibits at their show, the present buildings being totally insufficient and unfit for the proper display of the exhibits, dangerous to the animals, and anything but conducive to the comfort and convenience of visitors; and that this association urge the directors to provide sufficient accommodation before the time for holding the next exhibition."

The following officers were elected: President, Mr. J. E. Brethour, Burford; vice-president, Mr. Geo. Green, Fairview; secretary-treasurer, Mr. F. W. Hodson, Guelph; directors: Yorkshires, Mr. G. B. Hood, Guelph; Berkshires, Mr. Thos. Teasdale, Concord; Suffolke, Mr. R. Dorsey, Burnhamthorpe, Chester Whites, Mr. R. H. Harding, Thorndale; Poland-Chinas, Mr. Wm. Jones, Mount Elgin; Essex, Mr. Joseph Featherston, M.P., Streetsville; Tamworths, Mr. Andrew Elliott, Galt; Duroc-Jersey, Mr. W. E. Butler, Dereham Centre. General director, Mr. J. C. Snell, Snelgrove; auditors, Messrs. John I. Hobson, Mosboro', R. Snell, Snelgrove.

The meeting adjourned until some time in February.

V. THE JOINT PUBLIC MEETING.

The boards of management of the several stock-breeders' associations took advantage of the presence of the large numbers of stockmen and farmers visiting the city to hold a public meeting in the City Hall. The attendance was all that could be desired. Hon. John Dryden presided, and congratulated the live-stock associations on the success of the show.

Mayor Lamprey welcomed the Ministers of Agriculture and the numerous representatives of the stock associations. His address was responded to by Dr. Mills, J. I. Hobson, and J. C. Snell.

Hon. S. Fisher, Dominion Minister of Agriculture, was then introduced. In his address he said that he took it to be the first duty of a Minister of Agriculture to meet as early as possible the stockmen and farmers of the country, and learn what they need, and how best to obtain it. They are the men, he said, that have made Canada so well known throughout the world. He had their interests at heart, and, in conclusion, he assured them that his entire energy and capacity were thoroughly at their command.

Mr. Pattullo, M.P.P., of Woodstock, assured the stockmen of a hearty welcome if the Fat Stock Show came to Woodstock.

Prof. Chas. F. Thorne, Director of the Ohio Experiment Station at Wooster, Ohio, gave an interesting address on the "Relative Cost of Beef and Butter." Many a farmer would like to know which pays the best to produce, beef or butter. He had set himself the task of finding out as nearly as he could. He then referred to the difficulties in the way of arriving at definite conclusions in regard to the feeding values of any variety of fodder, or in regard to the cost of producing a pound of beef, mutton, pork, or butter. The chemists had helped to solve the difficulty by showing that the water in the food was of no more feeding value than the

water out of a spring or well; and that for true comparison they must use only the dry substances of the food. Working on this basis, the speaker had gathered together the results of a large number of feeding experiments in the United States and Canada, and from these results he found that when a well-balanced ration, containing a fair proportion of grain, was fed, one pound of beef was produced for every ten pounds of dry substance in the feed. Turning next to the production of milk, he found from the analysis of a large number of feeding experiments that one hundred pounds of dry substance would produce three and one-half pounds of butter fat, which is equal to about four pounds of butter. Thus to produce one pound of beef requires ten pounds dry substance of the food, and to produce one pound of butter requires twenty-five pounds of the dry substance, or what will produce one pound of butter will produce two and one-half pounds of beef. Thus we have some basis by which a comparison can be made as to whether it will pay to produce milk or beef. His address, though technical, was very much appreciated.

VI. THE DOMINION HEREFORD BREEDERS' ASSOCIATION.

The annual meeting of the Dominion Hereford Breeders' Association was held at Guelph on Thursday, the 10th of December, Mr. Alfred Stone, Guelph, 1st vice-president, in the chair. The secretary, Mr. H. Wade, read a letter from Mr. H. D. Smith, Compton, Que., president, stating how sorry he was that important business prevented him from attending. Mr. Smith also forwarded a very interesting paper, reviewing features of interest in Hereford matters. He stated that there had been a marked increase in the demand for Herefords at much more satisfactory prices than had been obtained for the previous four or five years: also that there was increased competition and interest displayed at the last fall shows. At Mr. Southam's sale of Herefords last spring the average price for nineteen young bulls was \$200.05. Again, this fall, Gudgeon & Simpson and J. A. Funkhouser held a sale on a cash basis, and sold twenty-four young bulls at an average price of \$196.67; most of these animals were purchased by ranch owners, who seem to like the white faces. He then recommended those who have good calves to take extra care of them, and predicted that they would be well paid for doing so.

The secretary then read his sixth annual report as secretary-treasurer of the Hereford Breeders' Association, in which he stated that an improvement of prices might be expected in the near future.

The association recorded 150 animals from Dec. 1st, 1895, to Dec. 1st, 1896, and has on hand 533 pedigrees for the first volume. One thousand one hundred and fourteen pedigrees lost in the fire have not been returned to copy, but are still coming in slowly. There are 27 members on the roll, although a few have not as yet paid their second call.

Exhibitors in 1896 at Toronto were H. D. Smith, Compton, Que.; D. M. Wilson, Moe's River, Que.; Alfred Stone, Guelph; and Fleming & Co., Weston.

The financial statement showed a balance on hand of \$147.22. The following officers were then elected for 1897: President, H. D. Smith, Compton, Que.; vice-president, Alfred Stone, Guelph; vice-president for Nova Scotia, W. W. Black, Amherst, N.S.; vice-president for Manitoba, Sir Donald A. Smith, St. James'; vice-president for the Northwest Territories, H. A. Muntz, Olds,

Alberta. Directors—George Brant, Warwick; A. Waldie, Acton West; Richard Stutt, Forest; James Carswell, Renfrew; F. A. Fleming, Weston; A. Rawlings, Forest; Isaac Wiser, Prescott; H. Reed, Mimosa; Jos. Sharnman, Todburn, Man. Auditor—G. W. Green, Toronto; secretary-treasurer, H. Wade, Toronto.

VII. THE AGRICULTURAL AND EXPERIMENTAL UNION.

The eighteenth annual meeting opened at the college at Guelph on the afternoon of December 10th, 1897. There was a larger attendance of ex-students present than there had been for a number of years. Vice-President D. Z. Gibson occupied the chair. President Lick, of Oshawa, gave his address, and a short discussion followed.

INJURIOUS WEEDS AND INSECTS.

Professor Pantou spoke on "The Injurious Weeds and Insects During 1896." The six most injurious weeds seem to vary somewhat from year to year. This year they were: Canada thistle, mustard, ox-eye daisy, wild oat, ragweed, and burdock. The six worst insects seem to be about the same year after year. This year they were: the potato beetle, grasshopper, hornfly, cutworm, tent caterpillar, and the army worm. The hornfly appears to be on the decrease.

Mr. T. F. Patterson led the discussion, which was a very interesting one. Dr. Mills said any man that had a dirty farm either worked too much land, did not understand his business, or he was lazy. Mr. Rennie said that surface cultivation was decidedly the best way of fighting weeds.

RATIONS FOR COWS.

Mr. G. E. Day spoke on "Eations for Cows." He reported that he had sent out a large number of questions to farmers in all parts of the province in regard to dairy matters, and had received 170 replies. From these replies he found as to the time that cows should be allowed to go dry the average opinion was 57 days. Some 68 men reported that they had good results from dehorning their cows; only one man was sorry he had done so.

Mr. Day's address on this important subject was practical, and illustrated with charts. Mr. Alex. Yuill, of Carleton Place, led the discussion thereon, which was a very lively one. One gentleman had found alfalfa or lucerne very valuable pasture for dairy cows. Mr. Zavitz reported that alfalfa had been tried with fair success on the college farm. Mr. Taylor, of Lincoln, Nebraska, who has been travelling in Europe for the past year, spoke of how alfalfa was grown in almost every country in the world but Canada. In Nebraska the farmers used it for feeding to their hogs.

ECONOMIC FEEDING OF LIVE STOCK.

This subject was taken up by Mr. Wm. Rennie, the Farm Superintendent. Some of the points for successful and economic feeding brought out by Mr. Rennie were: a love for and a thorough understanding of the stock; punctuality; making the animals contented; keeping them comfortable; and properly ventilating the stable. He strongly advocated succulent foods.

THE OPEN MEETING.

The open meeting in the Convocation Hall was very largely attended by those interested in the

work. President Mills presided. Professor Thorne, director of the Experiment Station, Wooster, Ohio, spoke on "The Farm and the School." Mrs. Hordless, of Hamilton, gave the address on "Domestic Science" that she was to have given at the joint meeting in the city. Mr. Thomas Grenier, editor "Farm and Home," gave a talk on "Beautifying the Home"—a happy home is the quintessence of earthly bliss. Hon. John Dryden made a very fine address on "Our Province." The College Glee Club furnished music for the programme, and fittingly closed the meeting with "The Maple Leaf."

DAIRYING EXPERIMENTS.

At the third session Mr. T. C. Rogers reported on the experiments carried on by the Dairy Committee. The committee found that cheese with a large per cent. of butter fat had better keeping qualities than that with a low per cent. Also that unwashed butter scored the highest number of points when fresh; at the end of two weeks the washed butter scored the highest number of points.

FOUL BROOD BACILLUS.

Mr. F. C. Harrison's paper on his investigations on the foul brood bacillus was a very interesting one, but the time allowed to it was rather too short to do it justice.

LEADING STRAWBERRIES.

Mr. H. L. Hutt gave the report of the Horticultural Committee. The strawberries were the only variety of small fruits experimented with that gave satisfactory results. The Warfield stood the highest. The Haverland was particularly free from rust. Van Dieman's stood at the top as an early berry, but forty-seventh on the list for total yield. It would make a profitable berry for the producer, as a large yield at the first two or three pickings was often more profitable than a whole crop later in the season. The Warfield stood fourth as an early variety, and was a good berry for heavy land.

OTHER ADDRESSES.

"The Garden as an Educator" was the subject of Mr. Grenier's paper, and brought out a lot of discussion.

Mr. C. A. Zavitz reported on the co-operative experiments relating to the different kinds of grain.

Professor Charles E. Thorne spoke on the "Best Methods of Increasing and Maintaining the Fertility of the Soil."

The officers for the following year are: President, D. Z. Gibson, Willow Grove; Vice-President, Geo. Harcourt, Toronto; Directors, Dr. James Mills; T. G. Raynor, Rosehall; N. Monteith, Stratford; E. Lick, Oshawa; and C. A. Zavitz, Guelph.

Committee on Agriculture—C. A. Zavitz, Dr. Mills, Professor Shuttleworth, James Atkinson, O.A.C., John Buchanan, O.A.C.

Horticulture—Professor Hutt, J. A. Campbell, E. Lick.

Apiculture—R. F. Holtermann, Brantford; F. C. Harrison, O.A.C.; R. M. Husband

Dairying—Professor Dean; H. L. Beckett, Hamilton; S. F. Browe, Whitby.

Economic Botany and Entomology—Professor Pantou; T. F. Patterson, O.A.C.; Wm. McCallum, O.A.C.

Live Stock—Professor Day; W. Ballantyne, Stratford; W. Reunie, O.A.C.

Auditors—Allan Shantz, Waterloo; W. J. Elliott, Galt.

VIII. THE DAIRYMEN'S ASSOCIATION OF WESTERN ONTARIO.

The Board of Directors of the Dairymen's Association of Western Ontario met at Guelph on December 9th, during the Provincial Fat Stock and Dairy Show. There were present: President, A. F. McLaren, M.P., Stratford; Andrew Pattullo, M.P.P., Woodstock; John S. Pearce, London; Harold Eagle, Attercliffe Station; J. N. Pagit, Canboro; J. W. Symington, Camlachie; Thomas Gibson, Fordwich; John Prain, Harriston; and J. W. Wheaton, secretary, London. Inspector Millar, Kincardine, was also present to confer with the board regarding his work during the past season.

Mr. Millar and the secretary reported that they had made a visit recently to a number of the syndicate factories, and that the results obtained by the system of uniform instruction and inspection inaugurated by the association last spring had amply justified the expenditure incurred by the association in this work. The syndicate instructor, Mr. J. B. Muir, has done good work in this capacity.

The proposal of the Hon. John Dryden, Minister of Agriculture, for the amalgamation of the Ontario Creameries' Association and the Dairymen's Associations of Eastern and Western Ontario came up for consideration. A resolution was passed by the board expressing its

unanimous approval of the general features of the scheme, and instructing the Executive Committee to confer with the Minister of Agriculture and committees from the other associations in arranging and perfecting the details of the scheme.

The Executive Committee will also confer with Mr. Dryden with a view to securing better sanitary conditions in the cheese factories and creameries of the province.

As there have been several requests lately for the association's inspectors to arbitrate between cheese buyers and factorymen in cases where cheese have been rejected by the buyer, the board expressed its opinion that it would not be in the best interests of the association to undertake such work, and recommended that such disputes be referred to the Dairy Board of Trade where the cheese were sold.

Arrangements for the annual convention in Brantford on January 19-21 are completed, and the official programme will be mailed to the cheese and buttermakers, factory representatives, and members of the association. Copies can be had by applying to the secretary of the association at London.

Dairymen and farmers are requested to keep the above dates free, and arrange to visit Brantford at that time. The prospects are that the coming convention will be one of the best ever held under the auspices of the association, and no dairyman should miss being present.

THE ONTARIO BEEKEEPERS' ASSOCIATION.

Specially reported for FARMING.

The beekeepers of Ontario held their seventeenth annual meeting in Toronto on December 8th and the two following days, during which some good work was done and some excellent papers were read. The meeting was honored with the presence of the Hon. Sydney Fisher, Minister of Agriculture for Canada, who stayed over for a short time on his way to Guelph, in order to address the members. After expressing his sympathy with them, he informed them that any suggestions they might make with regard to advancing the interests of beekeeping in general would receive his earnest attention. The meeting subsequently acted on his advice, and passed a resolution recommending the appointment of Mr. R. F. Holtermann-Brantford, as apiarist at the Experimental Farm, Ottawa. FARMING heartily congratulates Mr. Holtermann on the unanimity with which this resolution was passed by the association.

Some of the earliest business before the meeting was the report of the committee on by-laws, which recommended a number of changes in them, rendered necessary by the passage of the new Agriculture and Arts Bill last year, all of which were accepted with one exception. A vote of condolence was also passed to the widow and children of the late Allen Pringle, for many years an active member of the association.

The report of affiliated societies showed that out of twelve nine had reported, but the reports were not so full as they should have been. As regards the 1553 colonies which were reported upon, the increase of bees was 55 per cent. in the fall; the amount of comb honey produced, 9,899 lbs.; and of extracted honey, 80,909 lb.

The treasurer's report showed the receipts to have been \$749, and the expenditure \$662.83, leaving a balance in hand of \$56.17.

Under the head of new business Mr. Newton brought forward the question of freight rates on honey, which is

classed so high as to rob the producer of his profit. Several other speakers corroborated him in this, and eventually a committee, consisting of Messrs. Gemmill and Holtermann, was appointed to see if the railway companies would not lower the rates on honey.

The report of the committee on honey legislation, which was presented by Mr. Pettit, was passed, after some changes had been made in it.

THE PURE HONEY BILL.

The Experimental Farm at Ottawa was represented by Mr. Fixture, who read a report on experiments on comb foundation which had been held at the Farm. Mr. McFarlane, chief analyst of the Government, from Ottawa, was also present to ascertain the views of the members as to the manner of enforcing the Pure Honey Bill, and as to the standard to be adopted for analysis. A number of the members wanted the specific gravity to be given in the bulletin of the department, but Mr. McFarlane pointed out that what was equivalent, the quantity of water in the samples tested, would be given. Mr. McFarlane also gave some particulars as to the methods pursued by his department in the case of analysis and of prosecutions of offenders against the Act. It seems that a charge of five dollars is made for every sample analyzed; but the Inland Revenue Department will, at their own cost, proceed against persons from whom an adulterated sample has been purchased through an agent of the department. After some discussion, the executive committee was appointed to watch proceedings in prosecutions on behalf of the association.

MR. KINYON'S ADDRESS.

"Beekeeping in Cuba," was the theme of an address by Mr. Irving Kinyon, Camillus, N.Y. The native hive is a long box five or six feet long, and open at both ends. The bees kept are the same varieties as on this continent, and

are not at all savage. The climate and country are well adapted for bees, and honey is abundant and very cheap, being worth only about twenty-four cents a gallon. The honey flow begins about the first of October, and is at its best in December. Bees are kept for the wax, which fetches twenty-two cents a pound. Wax moths are very troublesome, and eat both the wax and comb. The honey is of good quality, and is mostly exported to Holland. Foul brood does a great deal of damage.

In answer to a question as to his method of securing comb honey, Mr. Kinyon said that he uses a chaff hive in the spring. When the bees are strong, without danger of their swarming, he puts on an extra super, but no queen excluder, and sees that they have plenty of honey. He hives the swarms on five or six Langstroth empty frames, with starters in the frame below, and dummies on both sides. He uses a quilt instead of a bee space.

HONEY VINEGAR.

Some discussion took place on honey vinegar, some samples of which were on view in the hall. Mr. McKnight, Owen Sound, stated that it took fully one and one-half pounds of honey to make an imperial gallon, and gave his method of making. He uses a large barrel, and puts in about two pounds of honey to each gallon of water. The second fermentation produces good vinegar. The process can be hastened by putting in yeast or mother, and by using an old barrel that has contained vinegar. The cheapest medium to use for clarifying the vinegar is skim milk, and it is nearly as good asisinglass or white of eggs, which cost more.

SUMMER AND WINTER MANAGEMENT.

Mr. A. E. Hoshal, Beamsville, read a good paper on "Principles of Summer Management," which he illustrated by a number of diagrams showing the proper positions of the honey and brood in various styles of hives. This paper was very favorably commented on by all who heard it, and showed that Mr. Hoshal had studied his subject well. It is impossible in the space at our command to give even a faint idea of the principles he enunciated, as the paper was of considerable length, but we advise every one to secure a copy of the Beekeepers' Report for 1896, and read it there.

HAROLD JONES, Maitland, Ont., writes under date of November 14, 1896: "I am pleased to send you my subscription for FARMING from now until the end of 1897. Am very much pleased with your journal, and think such a valuable monthly should be found in every rural home."

APPRECIATED IN THE WEST INDIES.—St. David's, Bermuda, November 22, 1896. The Bryant Press, Toronto. Gentlemen,—Enclosed you will find \$1.50 (foreign subscription). For which please forward FARMING for one year, beginning with December, to a new subscriber, whose name is enclosed, and extend my own subscription in accordance with your offer in the October number. I cannot close without saying a word in favor of FARMING. It is undoubtedly the best agricultural paper that I have ever seen. The photographs of animals are particularly interesting and valuable. Sincerely yours, E. A. MCCALLAN.

LONDON, December 14th, 1896. Gentlemen,—Please send us an advertising slip for 200 lines for 1897. We must say our returns from advertising in FARMING have been most satisfactory, and we wish for FARMING an ever-increasing circulation and continued success. Yours, etc., S. ETTISUE & GEORGE, 52 Clarence street, London, Ont.

Later in the session Mr. Hoshal gave some further information which covered the ground as regards "Winter Management."

FOUL BROOD.

Mr. F. C. HARRISON, B.S.A., Bacteriologist, Ontario, Agricultural College, read his report on experiments with foul brood, which he also gave at the Experimental Union meeting, and which showed the great tenacity of life that the spores of foul brood have, even when subjected to unfavorable conditions. He stated that he was, at the present time, experimenting with formic acid and naphthaline, feeding the former to bees, to see if these agencies counteract foul brood.

A member asked if any of those present had had any experience with white fungus or pickled brood. The reply was in the negative.

A small wax worm attacked section honey in some parts last season. Some of those present thought that it was a new pest, but others held that it was the larva of the bee moth. It is a worm half an inch long. It was suggested that live specimens be sent to Prof. Fletcher at the Central Experimental Farm, Ottawa, who would determine whether they were a new kind or not.

It was recommended that the *Canadian Bee Journal* be the bonus to members during 1897. It was decided to hold the next annual meeting in Hamilton.

The following are the officers elected for 1897: President, J. K. Darling, Almonte; 1st vice-president, N. B. Holmes, Athens; 2nd vice-president, W. J. Brown, Chard; secretary, W. Couse, Streetsville; directors, C. W. Post, Trenton; J. W. Sparling, Bowmanville; A. Pickett, Nassagaweya; F. A. Gemmill, Stratford; W. A. Chrysler, Chatham; W. Couse, Streetsville; N. H. Hughes, Barrie; J. B. Hall, Woodstock; from the Ontario Experimental Farm, Dr. Mills. Inspectors of Foul Brood, W. McEvoy, Woodburn; F. A. Gemmill, Stratford. Delegates to Fair Boards—Toronto, R. F. Holtermann, Brantford; Western, John Newton, Thamesford; Ottawa, J. K. Darling, Almonte. Auditors, A. E. Hoshal, Beamsville; J. Newton. Revising Committee, J. D. Evans, Islington, and D. M. Heise, Bethesda.

WILLIAM SMITH, Esq., ex-M.P., of Columbus, Ont., writes: "Your valuable paper should be in every farmer's hands. I consider it a duty, as well as a pleasure, to speak a good word for it whenever I can. Am much pleased with the December number."

SAULT STE. MARIE, ONT., December 11th, 1896. Editor FARMING: I think FARMING should be in every farm home in Canada. I wish you every success, and hope you may be amply rewarded for the extraordinary efforts which you are making to advance the interests of the farmers of Ontario. I remain, yours truly, JOSEPH YULL, Carleton Place.

NORTH GLANFORD, December 10th, 1896. Publishers of FARMING, Toronto: Dear Sirs,—Enclosed find post-office order in payment for my subscription to the close of 1896. Kindly continue my subscription. I appreciate the improvement you have been making in the journal. I have been taking THE LIVE STOCK JOURNAL and FARMING for upwards of ten years, and always find it fresh and full of information that is helpful to me. Wishing you every success, I am, yours, etc., ROBERT J. LOGAN, North Glanford, Ont.