POULTRY SENSE

PURSELL

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POULTRY SENSE

A TREATISE

ON THE

MANAGEMENT AND CARE

OF

CHICKENS

INCLUDING THE TREATMENT OF THE
MORE COMMON DISEASES

BY

J. P. PURSELL, M.D.

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PREFACE

My excuse for writing these few pages is to relieve some poor fellow, who may have spare time on his hands, as I have had.

Living in the country, one is not afforded the various pastimes and clubs to run into in leisure hours, and, as I am of an active nature and must keep occupied, decided to keep a few chickens.

Proceeded to buy a few books on chicken lore; subscribed for a couple of first-class poultry journals; soon discovered there were a vast number of both to be had, but, after reading them for some months, found that I was more confused and mystified than ever.

PREFACE

Then I began experimenting, and thus I can assure you I have been through the mill.

It is a long story, but I will not take up your time with such a tale of woe. It would be like describing the best bird, only to find later that they are all good. Any can be made a success by carefully following these pages.

JAMES P. PURSELL, M. D.

Member of A. P. A.

GRAND VIEW,
SELLERSVILLE, PA.

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Poultry Sense

THE poultry subject has occupied the minds of some of the foremost scholars and philosophers from the time B. C. until the present era.

Much serious thought, time and money have been spent in an endeavor to increase the production and quality of the hen.

In fact, to standardize a system

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of poultry culture, so that, by a course of study and practice, any person of average intelligence can make a success with the same.

Among the earliest writers were men of profound mind and influence, who gave the subject their unbiased consideration and attention.

That they succeeded in developing specimens of excellence, in a manner that would stand out prominently at this day, will be seen from a careful study of their writings.

As to the origin of the domestic fowl, that is a question which will never be positively decided.

By many it is thought to be the jungle fowl of India; it can scarcely be possible that all the species

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have come from one common source.

One of the writers of the first century was M. Terentian Varro—a friend of Cicero—who died in 27 B. C., in his 89th year.

He was one of the most learned of the early Roman scholars, having written 470 books, though of these only two have come down to us.

The one entitled “De Re Rustica,” on agriculture, written in his 80th year, was the most advanced of its kind. In it he gives space to poultry, calling attention to strong, healthy, vigorous breeding stock. He describes what they should be, and no doubt were, also different kinds.

Pliny the Elder, (born A. D. 23,

at Como or Verono), was a Roman naturalist of eminence and a great writer.

In his tenth book of "*Historia Naturalis*," he writes of the domestic fowl, and says: "These birds about our houses are our sentinels by night; nature has created them to awaken and call men to their work; they also have sense and understanding of glory; moreover, they are astronomers, know the course of the stars, divide the day by crowing three hours to three hours; when the sun goes to rest, they go to roost and, like sentinels, keep relief of the fourth watch; in the camp they call men to their labor and travel and will not suffer the sun to rise and steal upon us but that they give warning

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of it by their crowing, telling us the day is coming; likewise by clapping their sides with their wings. Ye shall see them marching stately, carrying their necks bolt upright, with a comb on their heads like the crest of a soldier's helmet, and there is not a bird beside himself that so oft looketh up to the sun and sky."

Columbella, a Spaniard by birth, like Pliny the Elder, was an enthusiastic writer on poultry; speaks of the courageous fowl of Taragra and the fattening fowl of Delas; writes of a table fowl of superior excellence, size, shape and utility.

From his description, there is no doubt but that he refers to the game fowl and describes what they were and should be:

“They should be of plumage red or tawny, black wings; let the whole be of the same color, or a near approach; let white fowls be avoided, for they are tender and less robust, neither is it easy to find those of that color that are prolific.”

He speaks of the breeding hen and says: “It should be robust, square-framed, large and broad, large head, small comb, white ears, and let the largest be used.

Those hens are reckoned the purest bred which have five claws. Thus you see at that early age vigor and stamina were of first importance.

They must have had a standard and bred to the same, also several varieties.

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He then says: "the cock must be lustful and colored like the hen, same number of claws, but larger, proud and erect, eyes brown, beak short and crooked;" goes on to describe the features and manners, as lively, alert and crowing frequently.

All writers of the different ages seem to have realized the tendency to deteriorate and insisted upon good quality.

Chaucer, writing in the 14th century, describes a fowl similar to the old Kent, Sussex and Surry, a five-toed fowl.

Terentian Parmenes also said they should be of the choicest color, good shape, active, courageous and goes into detail of eye, wattle, comb and head. Speaking

of their care, they must have clean pots and perches, refresh their troughs with fresh, clean water thrice in summer and twice in winter, for filthy water engendereth pip and other sickness.

Maisters, Leonard, Mascall, in 1581, and Prudense Choiselat, in 1586, wrote in a like manner and mentions a breed with a tuft of feathers on their heads. This is the first mention of the crested breed I have found thus far, which shows that they are among the oldest breeds on record.

As seen from the French translation of "The Maison Ruastique," written in the 16th century, the breeders of this period seem to have had the right idea of sanitation and advise cleaning the

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houses every day, frequently destroying insects, keeping the houses dry, free from draught and furnish plenty of clean water; give them sand, dust or ashes in which to dust themselves.

Having seen how careful they were three hundred years ago, we ask ourselves how much have we advanced?

It is indeed interesting to reflect upon the knowledge and attention given to poultry through the past ages, yet not surprising when one considers the benefit and pleasure to mankind derived from producing as perfect and useful a fowl as we have today.

In visiting many of the larger poultry plants and schools of this country, it seems to me there is

one important question which must be decided before success can be attained and that is, how to obtain health and vigor in the parent stock? First decide upon the breed you wish to keep, and, if for white eggs, would suggest the light or Mediterranean, which require less space and feed than either the Asiatic or American.

The leghorn has been dubbed the Jersey of the egg producers, though some of the American breeds are very good layers and will produce as many eggs per year. Then there are the Minorcas and Houdans, which lay large white eggs; the latter is especially prized in France for their table qualities.

If you want meat and eggs

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(and there is no objection to brown eggs), we advise the Wyandotte, Reds, Rocks, Orpingtons, Langshans, Brahmas and Cornish.

If you are interested in the fancy and breeding for pleasure (and, if properly handled and advertised, profit), choose the breed which appeals to you most. Eggs for market should be infertile, as they are more sanitary and keep better; these are strictly invalid eggs free from bacilli. Don't let your hens eat poor or putrid food, as it affects the flavor of the eggs and may transmit disease to your hens.

How shall we attain the health and vigor referred to above?

By following these instructions:

Location

First, as to location. If possible, locate on a sandy soil, well drained and laying to the south, south-east, or southwest.

Now consider what kind of fowls should go into the breeding pen.

This is the first step, and here we must begin correctly if our object is to be attained. See that they are selected with as much care and study as a college football team.

If you are right, succeeding steps will be easy; make a mistake, and failure is certain.

If inexperienced, we would advise buying a pen of the best birds your purse will allow and from

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some breeder of experience who is known to be reliable.

Even though you cannot afford more than three good birds, better spend your money for these, than a larger pen of inferior stock.

Let these few be VIGOROUS in every sense of the word. Be sure to inquire if any of them have been sick or out of condition; if so, then they are not the birds for you. You want only those that are absolutely STRONG, ACTIVE, WELL DEVELOPED and from GOOD, VIGOROUS STOCK.

If you purchase eggs for hatching, see they are from such stock as described above, and are not over two weeks old and as fresh as possible, they should be well

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shaped, good color, and free from defects.

Don't make a mistake and breed to a bird because it meets standard requirements and sacrifice vigor and laying qualities.

The number of hens per male should be about twelve to fifteen in the Mediterranean, eight for the American, and six for the Asiatic; the more active the breed the more females per pen.

If you use two males in the breeding pen (alternating each day), we get the best results from an early hatched and well matured cockerel and cock,—it will increase the per cent. of fertile eggs and produce more vigorous stock.

If inexperienced, I would say go slowly, develop a unit plant of

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from twenty-five to one hundred birds and when you have made a success of those you can multiply your plant by adding as many units as you desire.

Breed to yearlings or two-year-old hens, using an early hatched and fully matured cockerel or cock.

It is generally considered that mating hens with cockerels will give a larger per cent. of pullets, and by mating fully matured pullets with a cock bird will give more cockerels.

Never breed to full brothers or sisters, or where the male and female have like defects.

I am quite aware there are those who will say, "Nonsense,

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pullets are all right to breed to cockerels.”

Not so in our experience, nor do the most successful breeders use them.

The only time we believe pullets can be used is when you are breeding for cockerels, as stated above, and then they should be early hatched, fully matured and bred to a vigorous cock.

Why not breed to pullets?

Because they do not bring as strong, vigorous chicks, nor will they develop as rapidly or grow into as fine, large specimens as those from the more fully matured hen.

Pullets not being fully developed, lay smaller eggs, and the fertility is liable to run lower owing to the

large number of eggs laid per month as compared to hens.

The best results obtained at Grand View, have been from yearling or two-year-old hens mated to a large cockerel or a year-old cock.

The male should be selected with especial care, as to vitality, size, shape and color, and should exceed in those points which are defective in the female and vice versa.

I mention vigor first, because it is of the most importance, and, as I have just said, particularly in the male.

He must be active, alert, courageous, giving all of his attention to his hens, defending them, crowing often and difficult to coerce.

His eye should stand out promi-

nently and look ferocious and call loudly to his hens.

Next of importance is type.

He should be of good conformation; this is very essential. Next in line comes color; see that he is true to his kind, and of good size.

After you have selected your breeders, you must have a pen or house for their abode; we would strongly advise the fresh air kind, with curtain fronts.

Regardless of the adverse criticism of a few prominent breeders, fresh air is of vital importance to all organic life. See that the pen is dry, free from draughts, of ample size, so that there will be no crowding on the perches at night, plenty of scratching room, free

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from all kinds of vermin, clean and sanitary.

The floor should be double, with heavy paper between the layers.

There are many books written on poultry houses and fixtures; all agree in the main with but a few exceptions, so we will not take up much space in describing them other than to say that in a pen 10x 12 about 25 to 30 chickens can be comfortably housed.

See that the dropping board is at least two feet from hens when on perches and that the sun can shine on them a short time each day.

It is quite essential to visit your hen-house at night, in mild weather, in order to note if there is any

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crowding on the perches; if such is the case, you have too many to a pen; overcrowding is conducive to colds and poor ventilation.

The house should be free from draughts, dampness and vermin, for you cannot be successful unless you keep your flock free from the annoyance of lice and mites. Use plenty of lice powder; we use "TIP TOP" and find it very good.

Remove all droppings at least once a week; every day is better. Use plenty of sand on the floors of pen and drop boards, as sand is very important as well as sanitary; sifted coal ashes will do.

Disinfect often (not less than once a month) winter as well as summer; damp, warm, mucky

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weather is a good breeder of disease germs and a good time to fumigate.

Always be on the lookout for colds or other diseases, if you find such, remove the bird from the pen at once and place in a hospital.

Right here let me say that we consider it of utmost importance to have a separate place some distance from the other birds in which you can place all sick fowls. You will appreciate this advice some of these days when such diseases as roup, chicken-pox, sore throat, limberneck, cholera and other epidemics are rampant in your neighborhood; the chances are that if you have followed the above instructions you will escape, which will save labor, worry,

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money and perhaps a prize winner or two.

Upon purchasing birds from any source, never place them among your flock until you feel sure they are free from all vermin and disease.

For disinfecting use formaldehyde or flowers of sulphur; the former can be used in liquid by spraying on perches, dropping boards and about the pen, or the candles can be used; in using the sulphur, take a cupful (6 oz.) in an old can (we use the large-sized sardine can), set it in a basin of water, being careful that the water is not too deep or it will wet the sulphur; pour a little wood or denatured alcohol on the middle of sulphur and after freeing the

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pen from all the chickens and making it as nearly air-tight as possible, light the sulphur.

To a pen ten by twelve put two cans of sulphur or two candles of formaldehyde, after they have burned out (or in two or three hours) open up the pen and allow the birds to return; this will occupy very little time and destroy disease germs, vermin and rats.

Paint the perches at least twice a week with a mixture composed of one part crude carbolic (90 to 95 per cent.) to three parts gasoline. This is a fine disinfectant and germicide.

See that your hens have a good dust bath which contains a goodly quantity of flowers of sulphur or louse powder.

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We would suggest putting the dust box on the outside of the poultry house leaving an opening twelve by fourteen inches, through which they can enter the dust box from their pen.

This box should be large enough to accommodate several birds at a time. If you have thirty birds, make your box or house three by four feet in floor space and two and one-half feet high in front, slanting the roof towards the poultry house, where it will measure three feet high; place glass in the south side of this box. Of course this box will always be built on the south side of your hen house. Have the floor of the box six inches below the level of the hen house by placing a board six inches high

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across the entrance to the dust bath. It will keep the chickens from dragging in the litter.

Fill the box with dust or ground mixed with louse powder and flowers of sulphur until it is on a level with the floor of the house.

DUST BATH

The roof should be placed on hinges, so as to allow cleaning out

and replacing fresh dust or ground. By this plan the dust is kept out of the poultry house and yet affords a natural way for the hens to dust themselves.

Trap Nesting

We advise the use of trap nests by all means, particularly for the breeding pen, so as to be able to pedigree your stock and for the laying pullets, to enable one to select the best layers of large, perfect-shaped eggs.

There should be a record kept of these birds, so when we come to mate our breeding pens the following year, it can be done intelligently.

In order to do this each pullet

TRAP NEST

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should be banded. This band should be marked with the number of the bird and the year it was hatched. It will be your aim to improve your flock along the line of utility (laying, size of bird and egg), and show quality. This cannot be done scientifically without the aid of the trap nest.

By stamping the year on the band, it enables you to begin numbering the pullets each year, commencing with number one.

Trap-nesting incurs considerable labor, as the hen must be liberated, necessitating your visiting the nests three or four times daily.

Upon removing the egg, it must be marked with her band number, also the number of the male, and, if you wish the date, this must be

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done at the nest, so as to be sure you do not get the eggs mixed; a mistake here would make your record useless.

Pedigreeing is very exacting work, but very interesting.

The trap nest can be made out of any box having the following dimensions. 18 in. deep, 15 in. high, $12\frac{1}{2}$ in. wide; these are inside measurements. The wire which is used in making the trap is the size used in making handles for grape baskets, in fact have used the grape basket handles for making the traps.

Feeding the breeding hen is a question which requires considerable thought. The object is to produce strong fertility, large eggs and as free from bacilli as possible.

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Here quantity is not considered; it is quality we want.

It has been said white diarrhoea in the chick develops from an infected egg. This could be possible if the hen that laid the egg suffered intestinal trouble or constitutional disease.

This emphasizes what we have already said about strong, vigorous birds, pure feed and clean, fresh water put in sanitary fonts or basins.

A medium diet is one not so rich in egg-producing material (protein), but which will develop a strong, active bird, laying three or four eggs per week; such eggs are more fertile, larger, and hatch stronger chicks.

We advise the use of a germicide

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in the drinking water two or three times a week for a couple of weeks before saving the eggs for hatching and once or twice a week during the breeding season.

The following germicides are inexpensive and can be purchased at any first-class pharmacy and may be used as follows:

Enough permanganate of potash to color the water a cherry red, of 1 to 1000 solution, or sufficient bichromate of potash to give an amber tint to water, of 1 to 1000 solution, Ten drops of carbolic acid to one quart of water or bichloride, 1 to 1000, two ounces in a quart of water. I prefer the latter, especially if there has been any previous bowel trouble in the flock.

Where the stock is strong and

vigorous, with no history of bowel disturbance in your chickens from the previous year, the above may not be necessary, but can do no harm, though would not use the germicide more than once a week.

Feeding the Pullets and Laying Hens

First let us consider what the pullets require:

They must grow a heavy supply of feathers to protect them from the cold in winter, meet the Cata and anabolistic process (tearing down and rebuilding of the body), or, in other words, the wear and tear of her system, develop heat to keep her warm and material with which to produce the eggs and energy.

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When the pullets have reached the laying pen it is not so important that their feed should be rich in muscle, bone and feather-producing material, but rich in egg and energy-furnishing elements, which can be determined from the analysis of the various feed stuff given later, and will be selected from oats, wheat, corn, barley, peas, beans, lentils, cotton, linseed and meat meal, ground or cut green bone and milk.

She should have a goodly supply of green feed, consisting of sprouted oats, or other grains, cabbage, mangles, lettuce, turnips, swiss chard and occasionally a feed of alfalfa.

After the pullets have been

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placed in the laying pen they should be fed the following:

The mash for the first three weeks should consist of:

Wheat bran	300 lbs.	8
Wheat middlings	150 "	4
Corn chop	75 "	2
Meat scraps	75 "	2

After the third, and beginning with the fourth week, and continued for the next month, add to the above:

Gluten meal	75 lbs.	2
Cotton or linseed meal	35 "	1

From this on they should be given the following:

Wheat bran	300 lbs.	6
Wheat middlings	175 "	4
Corn chop	100 "	2
Meat scraps	150 "	3
Gluten meal	100 "	2
Cotton or linseed meal	50 "	1

During the molting season

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(which commences about July 15th), we add twenty-five pounds more of cotton seed or linseed meal and a little sunflower seed, mixed with the whole grains, which are scattered in the litter.

Be careful to examine your meat meal to see that it is free from adulteration and good and sweet; there has been so much poor stuff sold that it pays one to be on the watch and not to buy any but the best and from a reliable dealer. It should run about sixty per cent. protein and guaranteed to be fresh, otherwise you had better feed blood meal or plenty of milk.

Oyster shell, grit and charcoal should be kept before them in hoppers, at all times.

The whole grains should be

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thrown in about twelve inches of litter and consist of two quarts of oats and one quart of wheat, given in the morning and cracked corn at night; when very cold, feed whole corn.

The morning feed may be alternated every other day or so with two quarts of barley and one quart of wheat; a little buckwheat, say one pint, can be added to two quarts of cracked corn for the evening feed.

It is important that the birds should be kept busy,—this means hungry. If you overfeed they will become fat and inactive. Finding grain in the early morning before feeding would indicate that you have over-fed, and in this case you should withhold whole grain

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until the litter is entirely free from the same.

I would also advise the closing of the mash box and only allow them to use it about two hours during the middle of the day. As soon as they get busy again, go back to the former method of feeding.

The hens will require the same whole grains and would use in the mash box the same mixture as is given in the second mash for the pullets.

To better enable you to select a feed to your own liking and judgment, we give the following tables, taken from several very reliable sources.

I might say that the American Association of Agricultural Col-

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lege and Experiment Stations have adopted and recommended the term PROTEIN in the place of PROTEID, albumin, albuminoids, nitrogenous foods, etc., and we will treat the term as synonymous.

The following tables from several reliable sources will give you the value of the various vegetables and grains used in feeding:

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TABLE No. 1

Prepared from two very reliable sources.

Showing the value of different feed as tissue builders, heat and energy producers.

	MUSCLE- BUILDING MATERIAL	HEAT- PRODUC- ING.	FOOD FOR NERVE TISSUE.	WATER.	WASTE.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Wheat	16.6	66.4	1.6	14.	3.4
Barley	12.8	52.1	4.2	14.	12.9
Oats	17.	50.8	3.	13.1	16.9
North Corn . .	12.3	67.5	1.1	14.	5.1
South Corn . .	34.6	39.2	4.1	14.	8.1
Buckwheat . .	8.6	53.	1.8	14.2	22.4
Rye	5.5	75.2	0.5	13.5	4.3
Rice	5.1	82.	0.5	9.	3.4
Lentils	26.	39.	1.5	14.	19.5
Peas	23.4	41.	2.5	14.	19.
Beans	24.	40.	3.5	14.8	17.7
Potatoes . . .	1.4	15.8	0.9	74.8	7.1
Turnips	1.2	4.	0.5	90.4	3.9
Cabbage	1.2	6.2	0.8	91.3	0.5
Mangles					
Cow's Milk . .	3.0	8.0	1.0	86.	
Beef	19.	14.	2.	65.	

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TABLE No. 2

Prepared for use in United States Army.

	PROTEIN.	FATS.	CARBO- HYDRATE	SALTS.	WATER.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Oatmeal . . .	15.1	7.1	68.2	2.	7.6
Corn Meal . .	9.20	3.8	70.6	1.4	15.
Barley	13.	2 7	76.	3.	
Rice	7.4	0.4	79.4	0.4	12.3
Peas	26.70	1.7	56.40	2.9	12.3
Beans	23.10	2.	59.2	3.1	12.6
Potatoes . .	2.10	0.1	17.9	1.	78.9
Cabbage . . .	2.10	0.6	5.5	1.1	92.
Beef	17.7	27.		0.9	55.

As one can see, from a comparison of the foregoing tables, there is some variance in the per cent. and composition of foods, but not enough to make any particular difference, when we come to make up our feeds.

The following tables are reliable and show the general composition as an average analysis of grains, vegetables, etc.

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TABLE No. 3

Prepared from the Report of the U. S. Department of Agriculture.

	PROTEIN.	FAT.	CARBO- HYDRATE	WATER.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Wheat	12.25	1.75	71.25	10.60
Oats	12.	4.5	58.	10.
Corn	10.	4.5	71.75	10.75
Barley	11.	2.25	69.45	10.85
Buckwheat . . .	10.75	2.	62.75	12.
Rye	12.25	1.5	71.75	10.5
Rice	8.	2.	76.	12.
COTTON SEED MEAL				
Pennsylvania . .	44.40	10.10		
New England . .	45.40	11.20		
New York . . .	45.64	10.82		
LINSEED MEAL, OLD PROS.				
Pennsylvania . .	34.10	6.04		
New England . .	35.70	7.20		
New York . . .	35.74	7.19		
NEW PROS.				
Pennsylvania . .	34.25	2.63	FREE NITROGEN	
New England . .	38.20	2.40		
New York . . .	36.14	3.57		
Corn (Dent) . . .	10.3	5.	70.4	10.6
Corn (Flint) . .	10.5	5.	70.1	11.3
Corn Meal . . .	9.2	3.8	68.7	15.
Gluten Meal . .	29.4	6.3	52.4	9.6
Malt Sprouts . .	25.15	1.71	45.98	9.94
Brew. Dried Grains	23.90	7.	43.30	8.9
Wheat Bran . . .	15.4	4.	53.90	11.9
Wheat Mid. . . .	15.6	4.	64.40	12.1
Wheat Shorts . .	14.9	4.5	56.80	11.8
Ground Oats . .	11.8	5.	59.7	11.
Barley Meal . . .	10.5	2.2	66.3	11.9
Red Clover . . .	12.3 to 14.5	3.3 to 3.9	38.1 to 45.2	15.3
White Clover . .	15.7 to 17.4	2.9 to 3.2	39.3 to 43.5	9.7
Alfalfa	14.3 to 15.6	2.2 to 2.4	42.7 to 46.6	8.4

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TABLE NO. 3—CONTINUED

The following is an average table taken from different sources :

	PROTEIN.	FAT.	CARBO- HYDRATE	WATER.
	Per Cent.	Per Cent,	Per Cent.	Per Cent.
Lentils	25.7	1.	59.	8.
Peas	24.	1.	62.	10.
Beans	22.5	1.8	59.	12.6
Turnips	1.33		8.	89.
Cabbage	2.	.3	6.	90.
Cow's Milk	4.	4.	4.	87.5
Beef	20.5	3.5	0.	74.4
Pork	9.8	48.9	0.	39.

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In order to scientifically determine just what kind of feed and in what proportions they should be used, let us consider the analysis of the hen's body, also the egg.

THE HEN'S BODY CONSISTS OF THE FOLLOWING :

Water—seventy-four per cent.

Protein—twenty-one per cent.

Fat—three and four-fifths to five per cent.

Saline—about one-half per cent.

The egg, one tenth of which is shell, contains the following:

Water—seventy-three and one-half per cent.

Protein—thirteen and one-half per cent.

Saline—one and a tenth per cent.

Lewis and Gilbert give the following analysis of the egg, allow-

ing one-tenth for shell, which is largely carbonate of lime, yolk thirty parts and white sixty parts.

Yolk of Egg

Yolk of egg—thirty per cent.

Protein—sixteen per cent.

Fat—thirty and seven-tenths per cent.

Saline—one and three-tenths per cent.

Water—fifty-two per cent.

White of Egg

White of egg—sixty per cent.

Protein—twenty and two-fifths per cent.

Saline—one and three-fifths per cent.

Water—seventy-eight per cent.

Shell (largely carbonate of lime), ten per cent.

As has been shown from the

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foregoing, the hen's body and egg are largely composed of water, you can better appreciate the importance of a goodly supply of the same.

Next we find protein predominates, and as this is especially necessary for a large egg yield, it is self-evident the laying pen should be well supplied with the same, and as fat protects the protein from consumption and is the principal heat supply, we must have a goodly portion of this in the food.

The carbo-hydrates (sugars and starch) furnish energy and nerve-building material as well as some fat, so it should be found in the grains, vegetables and other feeds.

The bony system, feathers and

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egg-shell are supplied principally from the phosphates and carbonate of lime, also soda (salt) and iron.

This is largely furnished by oyster shell, wheat, bran, oats corn, etc.

There has been a great deal said and written about feeding hens and pullets for egg-production, much of which is confusing and misleading to the beginner. Better follow one good authority than to try so many different schemes.

After all, it is not only the feed that makes a heavy egg yield in the spring, but climatic conditions, which furnish more natural feed and stimulate an active and busy life.

A good combination of cereals to be given to start your pullets and

hens on the egg laying idea is the following:

Ground beans, peas, lentils, and cotton seed meal mixed in equal portions and added to the mash occasionally, say two or three times a week, will usually do the trick, and start the young and old hen singing and on an expedition of investigation for a place to lay the egg.

It is not best to keep this up for very long, and just as soon as the eggs begin to come you may gradually reduce this and finally stop it.

Scalded oats or barley given in the morning in cold weather will give good results; you may also moisten your mash a couple of times a week with milk, or equal

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parts of milk and water, in which you can put a little salt; this given to the laying hen will assist in maintaining a uniform egg supply.

Do not keep pullets or hens that are sluggish layers; better put them in the fattening pen and send to the market as soon as possible.

The trap nests will pick out the lazy ones, or by examining the lay bones you can pretty well tell.

If the pullets are fully matured and have had the proper care and you are not getting eggs from them by January 15 to February 17 it will not pay to keep them longer, much less to breed to them.

To determine by the lay bones as to whether a chicken is laying or no, you proceed as follows:

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The lay bones are the two bones felt just beneath the vent, and in a hen that is not laying or a pullet before she commences to lay, they are quite close together, and it will be difficult to place one's fingers between the same; later, if you find you can get two fingers between the lay bones, it indicates she is getting ready to lay, and when three or four fingers can be placed between the bones the chances are she is laying, or will do so in a few days.

To our minds, the best egg producer is a good, well-developed, healthy pullet, properly fed and housed.

Chicks

Chicks may be hatched by hens or in an up-to-date incubator;

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if by hens, would advise setting Biddy in a quiet place, giving her a good nest of cut straw or shavings, in which have been mixed flowers of sulphur and lice powder; the heat of her body will cause a sulphurous odor which is not relished by the lice. You may put a sod of earth in the bottom, if you wish, then the straw and sulphur and powder on top. After the hen has been thoroughly powdered with louse powder and given some china eggs, she is left to herself, and if she proves worthy of good eggs by having sat faithfully on the nest for two or three days, give her thirteen eggs in cold and fifteen in mild weather, Once a week she should be powdered, then you will be pretty sure there

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will be no vermin to bother her or the baby chicks which make their appearance twenty-one days from the time of setting.

After they are all hatched and dry, the hen and chicks may be placed in a comfortable and commodious coop, which has been previously prepared, cleaned, free from lice and placed so as to have a southern exposure.

There should be a runway supplied, in which the chicks can go, but not the hen; this should be supplied with a cover, so that in wet weather it will not storm on the chicks and they and the ground be kept dry.

A good idea is to put litter in the run, and after the chicks have

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learned to eat, their grain should be thrown in the same.

It is best to make this run out of inch mesh wire, so that the chicks cannot get out or the sparrows in.

Do not feed the chicks until they are forty-eight hours old; then commence with a little pin-head oats, placed in feeders or on trays, a little clean sand which has been heated in an oven, or grit may be given in small quantities the day before.

They should be fed four times a day for the first three days, using only the pin-head oats; after this you may add cracked wheat, and on the eighth day add to the two former cracked corn; these are given in equal proportions.

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Wheat bran may now be given in small hoppers or trays and kept before them at all times.

BE CAREFUL NOT TO OVER FEED. Never give feed if you find some left from the previous feeding. As I have already said, the cracked grain had best be thrown in the litter or the runway. The hen can be given coarser feed.

After they are three weeks old, feed three times daily, using the cracked corn, oats and wheat.

You may now give a mash of bran, three parts; wheat middlings, one part.

Grit, charcoal and oyster shell should be hopper feed.

Chick feed containing pure, clean grain similar to the above, can be given if you prefer, purchasing

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your chick feed ready mixed in place of making it yourself. We do not believe in giving WET FEED, but a mash mixed with a little milk, or equal parts milk and water, just enough to moisten the feed, so that it is crumbly in the hand, will be good for them and stimulate their appetite, THIS MUST NOT BE SLOPPY or be allowed to SOUR in the troughs.

Do not give more than will be eaten up clean in from five to eight minutes; if any is left, this should be removed.

If you are brooding the chicks with a hen, be sure and powder her with a good louse powder at least once a week; the chicks will get enough of the powder from

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the hen to keep them free from lice so long as she covers them.

Plenty of FRESH, CLEAN WATER, given often and in absolutely clean fonts, is very essential.

The fonts should be scalded once a week.

We put ten drops of carbolic acid per quart in the drinking water for the first ten days to two weeks, once a day; after that every other day for six weeks, as this is a preventative of bowel trouble.

Cleanliness is the key to success here.

As soon as the chicks will eat whole oats, fill a hopper and keep it before them at all times; there is nothing that will make chicks grow larger and heavier with such an abundance of feathers.

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Some have been quite successful in hatching chicks with hens and brooding with a fireless brooder, or in an incubator, and on the eighteenth day place three or four eggs under a hen, so that she may hatch them out and accept the little chicks from the incubator.

In this way a hen can brood from eighteen to twenty-five chicks with perfect safety in quite cold weather.

In this case one must be quite sure that the hen is free from vermin and that the pen in which they are placed has been thoroughly fumigated and cleaned before the chicks are put in.

If the fireless brooder is used, thirty-five to fifty chicks do best in one flock, and they should not be placed in the brooder for thirty-

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six hours after hatching. The brooder had best be placed in a large pen, with a southern exposure, so as to get the early morning sun.

Incubator chicks do fairly well in this kind of a brooder, hardly the equal to hen hatched or brooded in our experience.

In raising large numbers, we prefer the heated brooder with a first-class hover.

If you use incubators, select one of the standard makes, and there are many of them.

Pay strict attention to the instructions that come with the machine; the maker should know best how to run it for good results.

When the chicks are hatched, do not take them out until they are

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perfectly dry and strong. DON'T MEDDLE WITH THE MACHINE AT ANY TIME, particularly when the hatch is coming off, and at this time do not allow the temperature to fall below one hundred and four degrees (104°).

Have your brooder clean, disinfected and at the proper temperature, so that the chicks can be transferred from the incubator into it when the time comes, without a variation in temperature.

The temperature in the brooder should be high enough to make the chicks comfortable; this can be determined by closely watching them for the first few days. If you see them sitting around in different places under the hover, some having their heads peeping

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out and they are not crowding, your temperature is all right and will range from ninety to one hundred degrees. Crowding is fatal and must be stopped at once, or you will lose many of the youngsters in short notice.

Teach them to go under the hover by repeatedly putting them back after they have been out for feed and exercise; the instant they commence to stand around and cry there is something wrong and the chances are that they are cold and should be put under the hover at once.

From fifty to seventy-five chicks to a hover do the best.

When they have learned the use of the hover, you can give them more space in the brooder and

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finally the entire run of the thing. Up to this time they should be limited to a narrow space surrounding the hover, not more than three inches.

Feed the same as described before for little chicks.

DO NOT SAVE ANY WEAKLINGS OR DEFORMED CHICKS. Those found at the time of hatching or that develop later, dispose of them at once, as they are good subjects for bowel trouble or other disease, which in time would affect the entire flock.

Clean the brooder often, every day, if necessary. It should never smell close or offensive. Disinfect and clean all trays, pans, boards or anything used in their care. As soon as it is possible to deter-

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mine the sex, separate the cockerels from the pullets, putting those for the market or fattening-pen by themselves, those for your future breeders in another place.

The pullets must be given a range and placed in a colony coop, with as much room as possible, putting about thirty in each house, facing the south; feed muscle, bone and feather-producing foods.

We find that oats before them at all times, cracked wheat and corn, with occasionally a little barley and fed three times a day, just what they will eat up nicely in ten minutes, give first-class results.

For a dry mash we use: wheat bran, three parts; wheat middlings, one part; corn meal, three-quarter

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parts. Once or twice a week add a little linseed or flaxseed meal. After they have been on the range for six weeks, we add one-half parts meat scraps; the same can be used for the breeding cockerels, except the meat scraps; the latter is likely to develop too much comb and wattle.

Those for market should be given the fat-producing feeds, occasionally adding red pepper to stimulate their appetites. This mash should be fed wet with milk, if possible. Do not give any green feed, but see that they have plenty of grit and oyster shell.

If you over-feed they will stop eating; this should be avoided. For whole grain use oats and whole

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corn, buckwheat is inclined to make the skin white.

The mash should consist of: wheat bran, one part; wheat middlings, one part; ground oats, one part; corn chop, two parts; cotton seed or linseed meal, one-quarter part.

The birds for fattening should be confined in small quarters, and in crate feeding, not over five or six in a crate. The manner of procedure is as follows:

Make a stand that will hold four crates, end to end, containing six birds each; the first row should be two feet from the floor and the second on top of these. A trough should be placed in front of each row just so the chickens can reach it in order to eat and drink.

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The feed is placed in these troughs and given wet; they are fed three or four times a day, all they will eat in about ten minutes; after which water is placed in the troughs and the house in which they are confined is darkened.

They should be given a good supply of grit and shell.

The object is to give them all they will eat without disturbing their appetites or bowels.

The mash feed consists of ground oats, barley, and corn chop, in equal parts, to which can be added cotton or linseed meal one-quarter part; fat, meat scraps or oil may be given, being careful not to give too much, as it will cause bowel trouble.

There is a machine used by

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some to fatten their stock, which is claimed to be quite a success; this apparatus is similar to a sausage stuffer, with a rubber tube attached to the spout; this is placed in the chicken's crop and the compression made with the foot lever; one hand is placed over the crop; as pressure is made the resistance to the hand indicates when enough has been forced in the same. They are fed two or three times a day, this taking only a very short time and a large number can be run through in an hour. These birds are kept in crates like the ones described above.

When they weigh three-quarters to one pound they are known as squab broilers; at one and a

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quarter to one and three-quarters, broilers; above this, roasters.

Don't keep unnecessary stock. If you want to make a success of the poultry business, you should practice economy; weaklings and sick chickens make unnecessary labor and eat off their heads. Everything possible should be turned into money.

By saving the droppings and putting same on your land it will bring a good return. Unless you keep the cockerels, which you are going to breed from or sell, in good clean dry quarters, and free from vermin, you will be disappointed in them and lose money. They should have a good dust bath as well as the pullets, in which you should place plenty of louse powder

and sulphur, and their quarters frequently disinfected.

Don't overcrowd the pullets and cockerels; the former should be ready for the laying pen by September first to October first, at the latest.

Keep them on the same feed the first three weeks after they are put into the laying pens. Then they should be given mash number one, mentioned before, and whole grains, as per instructions for laying pullets.

Show Birds

Those birds selected for the show should be placed in a coop by themselves and given special attention, handling them often, and by always having a little

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something for them to eat, such as a few bread crumbs or meat, they soon become very tame and docile.

Linseed meal and sunflower seed added to their rations, give them a sleek, glossy appearance.

They should be the strongest, largest, best type and colored birds that you have, meeting as nearly as possible standard requirements; this can be determined by closely studying the Standard of Perfection and comparing your bird with the cuts of the same breed.

First of importance is condition; this means vigor, style or carriage, cleanliness and freedom from disease; next, type, color, etc.

Colored or multi-colored birds rarely need washing, unless there

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is considerable white in them, or they are dirty.

In preparing your birds for the show, which you should commence to do a week or ten days before the exhibition, it is best to start with the head and see that every part is clean and free from as many defects as possible.

The beak, toes and shanks should be washed and rubbed up with sweet oil on a woollen cloth, especially if it is the last preparation. If there is any dirt under the scales of the shanks, which can be seen by a black line along its edge, it should be removed with a tooth-pick; the comb, wattle, and ear lobes, in case the latter should be red, can be rubbed up with sweet oil; in case the latter should be

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white, you may use zinc ointment on them.

The day of shipping, paint the comb, wattles and ear lobes, as above stated; should they be red, with oil of sassafras.

All white chickens should be washed and rinsed in two different waters, using ivory or castile soap.

The water in first tub should be of a temperature from 90 to 95 degrees; place the chicken in and soap her all over; then rub every part carefully, so as not to remove any feathers, and when she is clean, put her into the first rinsing tub, temperature of which should be from 70 to 80 degrees; here the soap must be thoroughly worked out, when she can be placed in the third tub where bluing has been

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thoroughly mixed, about one-half the amount used for clothing, or just sufficient to give a decided blue tint to the water. If your bird, after drying, which should be well done before a fire or stove, looks brassy, you may sponge it with peroxide of hydrogen until the feathers are decidedly moistened; then when about dry, sponge with aqua ammonia fifteen per cent.; this can be repeated several times, if necessary; any color remaining is permanent.

This operation should be performed in a room where the temperature runs from 55 to 70 degrees.

In drying birds they should be handled constantly, working the feathers and wings. By holding

the bird up by its feet it will flap its wings, thus freeing them from the water. As soon as you find the feathers are commencing to dry nicely, the bird can be placed on a chair by the stove.

After the birds are washed and dried, place them in a clean pen, which has been previously prepared and in which there are plenty of clean shavings or straw and put into a room free from draughts and not too cold, say not lower than 60 degrees.

Sprouting Oats

Sprouted oats, which has become almost a necessity, should be fed about the middle of the day and is prepared as follows:

Take a bucket of any kind,

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holding four quarts; fill two-thirds full of oats, over which you pour water, temperature 100 degrees, until the oats are covered; put this in a warm place and cover with an old sack or a piece of carpet, leaving it there for from fourteen to twenty-four hours; then dump the contents into another bucket, after first having punched the bottom full of holes, so that the water can drain out and still retain the oats.

The oats should be sprinkled twice daily with warm water, keeping the oats covered as before.

As soon as you notice the rootlets forming on the oats, dump the same into a tray that is eighteen inches wide by two to two and one-half feet long, spreading the oats

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out to the depth of an inch to an inch and a half, this must be kept covered and sprinkled twice a day with lukewarm water.

The temperature of the room should not be kept below fifty degrees.

When the sprouts are from one and a half to two inches long you may begin feeding it, tearing it into small pieces or giving it in squares. We consider the former the better way.

Give the hens all they will eat up in from five to ten minutes, other grains can be sprouted in the same way and fed every, or every other day.

Green food of some kind should be fed every day and as there are a great many, such as cabbage,

turnips, mangles, swiss chard, lettuce, etc., some one can be had at small cost.

Marketing the Eggs

You should endeavor to dispose of these to private families, or, in other words, direct to the consumers. If this is impossible then stores or commission men; the latter has not always acted squarely with the farmer, but there are those who will deal right with you and give fair prices, but it is better to eliminate the middle man and thereby save his profit, and give the consumer fresher and better eggs. And right here let me suggest to the poultry men, dairymen and general farmer, the advantage

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of selling their products direct to the consumer.

All farmers raise more or less poultry and have various kinds of vegetables and foodstuffs to sell, and if they had a central station or distributing centre to which they could send their eggs, milk, fruit, and vegetables, to be disposed of to the consumer or merchant by their own agent, they would make both the middleman's and retailer's profit; this could be very easily handled if the counties were divided in sections or districts, each district having its distributing centre or exchange. Each district would have its club or organization which would select their agent to supervise the selling of their products from the exchanges.

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They should advertise the fact that they will sell direct to the people and guarantee fresh, clean provisions; in this way they would get the highest price possible for all the foodstuffs they could raise and the consumer get much better provisions at a little less cost. I say much better, as you well know at present the poultry men and farmer keeps his produce until he has enough to pay him to sell. At the present low price for his products and the high price for labor, he cannot afford to ship more than once every week or two, when, if he had a central station, he could ship every day at less expense, as the shipment would be made by all in the section by their club agent.

The middleman, in disposing of the farmer's produce, is nothing more or less than a leech.

Get Rid of the Leech

Until this idea prevails we shall have to follow the usual course.

Eggs should be cleaned and assorted according to size and color and never sell your private trade a small or badly shaped egg. Poultry may be disposed of in a like manner, dry picked bringing the best price.

In selling stock for breeding, or eggs for hatching, be HONEST. Send your customer full value for his money; don't send a bird or eggs that are not what you would be willing to accept at the same price; see that your eggs are care-

fully packed and that the birds are well crated and free from vermin.

In advertising DON'T misrepresent your stock, for if you do you will only sell to that customer once.

Poultry Diseases

It would seem at first glance that this is a very important subject, and yet when seriously considered, the treatment of diseased fowls is of minor importance, compared to prevention of disease or prophylactic measures.

It is important to know how to care for and treat a few of the more common ailments, such as catarrhal colds, bowel trouble,

chicken-pox, bumble foot and perhaps sore throat and croup (roup).

We are of the opinion that a very sick chicken is of very little consequence, either as an egg-producer, breeder or show bird, and certainly should never be sent to the market.

Marasmus, tuberculosis, roup, cholera, etc., are constitutional diseases, and when a fowl becomes seriously ill, it should be decapitated at once.

Catarrhal Colds of Head

Let us consider catarrhal disturbances. This may affect the naries, (nose), eyes, throat or bronchi (it is very often classed as roup), in that the discharge from

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the nose at the time has a decided odor and becomes viscid, tenacious or thick and sticky; the eyes may become involved, which is only natural, when you consider there is a canal leading from it into the nose, and when the membranes of the nose are swollen and the chicken can no longer breathe through same, they often blow mucus up through the lachrymal canal into the eyes, or I should say between the lids and the eye-ball; this infects the membrane of the same, and they begin to water and swell up, unless properly treated at this time, the cornea of the eye (the pupil) becomes inflamed (keratitis) and finally ulcerates, the tissue breaks down and the vitreous humor,

etc., runs out, the eye is destroyed, or the throat becomes affected and covered with a yellow cheesy deposit which is very offensive, or the entrance of the trachea (wind-pipe) becomes ulcerated and covered with a thick yellowish deposit, and you have roup and ulcerated sore throat (called by some diphtheria), although I have never gotten a diphtheretic culture from the same.

Prophylactic Measures

Now what are we going to do for this, either in the first stages or to prevent it? We will first consider the prophylactic measures. See that the poultry house is sanitary, dry and free from draughts; if this is right, then perhaps there

are too many birds in the pen and they are crowded on the perches; if not, and the water and feed are clean, then it must be due to weather changes, or some bird from another source has brought it to your birds. Fumigate and disinfect at once and often. You should be very careful, if buying stock, to put them in quarantine for a while, until you are sure there is nothing wrong, and that they are free from vermin before you put them in a pen with your birds.

Treatment of Cold in Head

Upon the very first sign or evidence that a bird has a cold, or

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is not well, remove to a coop by itself, or it may be perhaps that your flock is more or less affected before you discover there is anything wrong.

In the first instance, if the bird is sneezing, has a thin watery discharge from the nose give it *Allium Cepa* 3x or *Arsenicum Alb.* 3x.; if there is watery discharge from the eye give *Euphrasia*, 3x.; if the discharge is thick and sticky and from nose give *Mercurius Vivus* 3x. or *Hepar Sulphur* 3x., particularly if there is a bad odor.

These medicines are given as follows: If only a few birds are affected, medicate some pellets (sugar pellets), such as you get at a

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Homoeopathic druggist or Doctor) and give three or four to each bird three times daily; if the entire pen is more or less sick, put twenty-five drops in about one quart of water and use this to moisten some mash; give it two or three times per day, giving just enough so that each bird gets about a table-spoonful.

All of the drugs mentioned above are liquid, except Mercurius and Hepar Sulphur; they are powder or flat discs, so you can dissolve twenty to about the same amount of water; have it warm and use to mix the mash or give one disc per dose.

Roup

If your bird has sore mouth, swollen head, and there is an odor

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to the breath, you have roup sure, and you can give Spongia 3x. and Mercurius Vivus 3x., four doses per day, in mash, drinking water, or let them take it as they like. If you have time to spare, medicate some pellets with Spongia 3x. (3 pellets per dose), give every two hours, alternating with Merc. Vivus 3x. (1 disc), and your bird will recover, if anything will cure it.

We believe in using the axe in such cases and disinfecting two or three times before another bird is placed in the same place.

Sore Throat

In case sore throat is the first thing noticed, the trachea nearly closed at top with a yellowish

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deposit; the latter should be removed with a thin stick, on which cotton is wound (tooth-pick will answer); moisten with thin oil and peroxide, equal parts, and swab out; then give Mercurius Iod. 2x. As an oil to drop in the nose or force in with a dropper, we use Enzymol, one part, and Peroxide of Hydrogen, one part; shake this well before dropping into the nose; this can be used in all catarrhal colds in conjunction with medicine, and give the flock Permanganate of Potash in their water, enough to give a decided purplish tinge to the same, of one to a thousand solution; or camphor tincture can be placed in the drinking water, twenty-five drops per quart. Bichloride of mercury one to a thousand, is

excellent, using one ounce per quart of water.

Diarrhœa in Chicks

The evidence of bowel trouble in the little chicks, if first noticed by the discharges sticking on the down at the stern of the chick. Give Ipecacuanha 3x., or Chamomilla 3x., either alternate or alone; give 20 drops to a pint in the drinking water every time you give them fresh water, or Bichloride of Mercury, one to a thousand, one ounce in pint of drinking water.

If the discharge is bloody or white, give Mercurius Sub. Cor. 2x., eight tablets in a half pint of water, or boiled milk and Arsenicum Iod. 3x., eight drops, as before, in boiled milk or water.

The experiment stations mention the use of sulpho carbolates comp. in such bowel troubles and diarrhoea in matured poultry, put in drinking water.

Diarrhœa in Old Chickens

In case they stand around all in a heap and the excretions are thin and watery, give Veratrum Alb. 3x. or Arsenicum Alb. 3x. three pellets per dose or twenty-five drops per quart of water or boiled milk; the latter is the better when you have it.

If diarrhoea is green, give Ipecacuanha 2x., or Arsenicum Iod. 2x.

If bloody, and the chicken drops its wings, etc., Mercurius Sub. Cor. 2x.

Limber Neck

Limber neck, or when the chicken has a greenish diarrhoea, the neck stretches out as long as possible and the beak almost touches the ground, the fowl stands around, give *Nux Vomica* 3x, and *Ipecacuanha* 3x.; when the chicken acts dizzy and the head is twisted around on one side and falls down, give *Belladonna* 3x.

Bumble Foot

This is the bruising of the soft tissues of the bottom of the feet and an abscess forms, or the periosteum, which is the membrane surrounding the bone, is involved and pus forms (this resembles a felon on the finger), cut down,

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let out pus and dress with iodoform gauze or powdered boracic acid.

If the bone of the foot is involved, cut down to it and scrape it, dress as before; use a bandage to keep the dirt out and give Hepar Sulph. 3x., one tablet two or three times per day or alternate with Calcarea Fluorica 6x.; this will eventually cure.

Frosted Comb

If possible apply snow or ice to the frozen comb until the frost is out of it, then cover with carbolated vaseline.

Scaly Legs

Carbolated vaseline can be rubbed on after the legs have been soaked in bichloride, 1 to 1000, for from five to ten minutes.

Chicken Pox

This is a cutaneous disease, and manifests itself by sores or blotches on comb and wattles, head or under the wings; may form pustules.

Quarantine and disinfect the pen from which the bird came; give Arsenicum 3x. and Rhus Tox. 3x., alternating, three pellets every two hours.

Or, in case a number are affected, put twenty drops of Arsenicum Album 3x. in one pint of water, moisten some mash and give just what will be eaten up in three minutes and in two hours prepare the Rhus Tox in the same way and give in alternation every two hours.

Asthma

Difficult breathing, with blueness of comb and face, due to being fat or heart trouble, require *Corallium Rubrum*, *Arsenicum Alb.* or *Spongia* in 3x., three pellets every two or three hours.

This must not be confused with bronchitis.

Bronchitis

Cold in the bronchial tubes, with rattling of mucus and cough, may be acute or chronic, sometimes called rattles.

Give *Ipecacuanha* 3x. *Antimonium Tart.* 3x. *Ammoniacum* 3x. is especially good for the chronic form, also *Senega* 3x.

Molting

If your chicks are not molting properly, add oil meal to their mash and some sunflower seed to their grain, also give milk in which there is a little extra salt and Calcareo Carb. 3x. and Phosphate of Iron in the water.

Crop-Bound

Give a tablespoonful of olive or cottonseed oil for a matured bird and a dessert spoonful for a chick.

If this does not relieve, cut a slit in the skin over the crop about one and a half inches long (lengthwise with the body), grasp the crop and cut a slit about one inch in the same, running same way,

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remove contents, sew up the slit in the crop with a clean white silk thread, then the slit in the skin over the crop. DO NOT SEW THEM UP TOGETHER.

The bird should be fed soft feed for about three days when it usually recovers.

Epidemic Conjunctivitis

(**Pink Eye**)

An inflammation of the conjunctiva, or membrane lining the eye lids and covering the white of the eye ball, this is due to a small Bacillus and causes the eye to become red, swollen, and to discharge a watery, sticky fluid which will reproduce the disease in another eye if it gets into it.

POULTRY SENSE.

Give cooling feed, sprouted grains, green feeds of all kinds, and mash.

Bathe the eye with one to one thousand of Bichloride of Mercury or saturated solution of Boracic Acid, by dropping three to four drops in each eye after which put in a little Yellow Oxide (Mercury ointment) a piece about the size of a number six shot.

Give Euphrasia 3x. if the eye is greatly swollen and if there is an acrid watery discharge.

Pulsatilla 3x. if the discharge is thick and forms pus.

Rhus Tox. 3x. for simple conjunctivitis without much swelling, but with a watery discharge; ulcers of the cornea (the pupil), hen keeps eye closed.

Egg-Bound

This is due to over feeding^r (too fat) or forcing egg production.

Give cooling feed (green feed and sprouted grains), no whole or cracked grains for a while.

Anoint the finger with vaseline and remove the egg; if too large, break it and remove it in pieces; same procedure for broken eggs; give Pulsatilla 3x.

Soft-shelled, large and poorly-shaped eggs are due to the same cause and lack of lime; give Calcarea Carb. 3x.

For bloody eggs, or blood on shells, give Pulsatilla 3x.

Gapes

This is due to a little red worm, supposed to be developed from a

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small parasite found in earth-worms.

The Germans, however, believe it develops in the chick, which has eaten something containing the spore of the worm (an insect) and that certain localities are more frequently infected with its source than others.

Chicks up to two months old are victims and should be kept out of the wet grass and rain until they have passed the danger point (ten weeks).

Infected ground must be treated with lime in order to destroy the infection.

The worm should be removed with a twisted horse-hair, or stripped feather to within half an inch of the end; dip the feather

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into kerosene before using same, or drop three drops of kerosene into the trachea (windpipe).

Cina 3x. given in the drinking water as per dictum under remedies.

Just one word about the drugs mentioned in this book.

They can be purchased of any Homeopathic Pharmacy or Doctor.

Some can be had at any drug store, such as Permanganate and Bichloride of Mercury, Alboline, Carbolic Acid, Flowers of Sulphur.

Remedies or medicines mentioned in this little book are to be given in 3x. unless otherwise mentioned.

If liquid, put twenty drops per quart of drinking water, or medicate number 30 pellets by drop-

POULTRY SENSE.

ping ten drops on a two drachm vial full of pellets and give three to the bird two or three times per day.

If powder, put eight grains in one quart of drinking water, or two discs two or three times per day.

By alternating the drugs, we mean give one (as Arsenicum) at one time and the other at the other (as Allium Cepa) at the next dose.

For instance, if you commenced giving Allium Cepa at 7 A. M. Arsenicum at 9, Allium Cepa at 11, Arsenicum Alb. at 1 P. M. and so on.

For making your Permanganate of Potash you can get a one quart bottle and put 14 grains into it, then fill same with water; this can be

your stock bottle used for putting in the fonts.

If birds have colds, we sometimes add half an ounce of Ammonium Carb. 2x.

Improving the Strain

When introducing new blood, the following has proven the best, particularly if you desire to retain the type and laying qualities of your own stock.

Purchase a first-class hen (yearling) from a breeder who has a strain known to be good for egg production and of excellent color, breed her to your best type year-old cock out of your heavy laying hens; the result of the mating

must be watched and the best laying pullet bred back to its sire, and a cockerel from this mating used in the breeding pen the following season.

Keeping the Stamina and Vigor in the Strain

By breeding the daughters, grand daughters or great-grand-daughters to the sire or grand sire, each time selecting the strongest, best type and layers, will improve the high qualities of the strain beyond that of the original sire and dam.

Breeding the dam or grand-dams to sons which are vigorous and most closely resemble the dam or grand-dam one can maintain beauty, color and vigor, and by mating a cockerel bred from the

daughter or grand-daughter of the original sire, by him or his sire, to a hen, daughter of the grand-dam or great-grand-dam of original dam, you retain vigor, quality and beauty.

This can be continued indefinitely, if a close record is kept of the breeding.

How Early Breeders Maintained Vigor

Columbella was perhaps the most scientific breeder and poultry expert of his day and kept records of his breeding pens, bred for type, color, vigor and egg production. He usually allowed about twelve hens to a cock.

Parmentier, the French breeder,

POULTRY SENSE.

allowed fifteen to twenty females to each cock.

Mowbray allowed four or five hens during cold weather, and Nolon believed that to secure fine large, strong specimens, one should use a two-year old cock with not more than five yearlings or two year old hens.

Don't's

Don't feed your breeding hens too much soft feed, a variety of grains thrown in the litter keeps them active and strong.

Don't breed brothers and sisters, unless you want to produce bantams.

Don't forget plenty of green feed, especially for the breeding pens; assists digestion and increases the fertility.

Don't forget that daughters bred to sire or grand-sire make good, strong, healthy chicks, or grand-

POULTRY SENSE.

dams or dams bred to sons do likewise.

Don't forget that the dam gives the size and the sire the color.

Don't forget that two defects bred together emphasize that defect.

Hard feathered birds do best on more grains, soft feathered on soft feed.

DON'T FORGET TO FUMIGATE OFTEN, WINTER AND SUMMER.

Don't forget to have plenty of litter in which to throw your grains. Busy chickens means health and eggs.

Don't breed to pullets, unless they are fully matured and at least ten months old; the same applies to cockerels.

POULTRY SENSE.

DON'T GET IN A HURRY—GO SLOW.

First make a success of your unit plant, before adding more.

Don't forget that poultry intended for the market should fast at least twelve hours before killing.

Don't put your show birds right back in the coop upon their return from the show, but in a pen by themselves, so you may watch for symptoms of disease or lice and keep the temperature about fifty degrees for a day or two.

DON'T RAISE VERMIN; IT DOESN'T PAY.

Don't keep the weaklings and immature stock; if possible, fatten them or place them on the guillotine.

POULTRY SENSE.

DON'T FORGET THAT MILK-FED FOWLS BRING THE BEST PRICE.

Don't buy cheap eggs and stock.

DON'T OVERCROWD, IF YOU WANT EGGS AND NO COLDS.

Don't forget to use plenty of louse powder and use it OFTEN.

Don't forget to keep the house dark in which you are crate feeding the fattening stock. This is a case of EAT, SLEEP AND GROW FAT.

DON'T FORGET TO PAINT THE PERCHES with carbolic acid, ninety per cent. one part to three of gasoline.

Don't place your chicks on the same ground every year or let the coops get wet inside.

POULTRY SENSE.

DON'T MEDDLE WITH THE INCUBATOR, ESPECIALLY WHEN THE HATCH IS COMING OFF.

Don't forget to train your birds; this means posing or placing them in the same position of this breed, as shown in the STANDARD OF PERFECTION.

Don't send dirty birds to the show room or to your customer.

DON'T FORGET THAT LIGHT AND SUNSHINE ARE IMPORTANT IN THE HEN HOUSE, THE MORE THE BETTER.

Don't forget to have a double floor in your hen houses and brooders.

Don't forget to watch the temperature in your brooder; look at it often.

POULTRY SENSE.

Don't forget ten drops of Carbolic Acid to a quart of drinking water, once a day for the first week, will prevent bowel trouble.

Don't forget that alfalfa meal or cut clover, preferably white clover, added to the dry mash in winter increases the egg yield.

Don't forget to ISOLATE ALL SICK BIRDS. This is the very first step to take.

AND, LASTLY, DON'T FORGET THAT YOUR WIFE WOULD LIKE TO HAVE A CHICKEN TO COOK ONCE IN A WHILE.

Materia Medica

ALLIUM CEPA.

Cold in head, with acrid discharge from nose and eyes, keeps eyes closed, so as to protect same from light.

AMMONIACUM.

Difficult breathing, chronic bronchial catarrh, accumulation of purulent mucus in windpipe, rattling in same.

AMMONIUM CARB.

Cold in head, takes cold easily, discharge of burning water from nose which stops during night, but worse next day.

POULTRY SENSE.

Long-continued discharge from nose, snuffles, ulcerations of throat, swelling of same, tongue sore and breathing loud.

ARSENICUM ALBUM.

Thin watery discharge from nose and eyes, latter red and swollen.

Mouth and tongue sore, sore spots on head, discharge of watery offensive substance from bowels, loss of strength, drinks often.

ARSENICUM IODATUM.

Discharge from nose sticky, eyes swollen and viciid discharge, sneezing, ulcers on tongue and sides of mouth, difficult breathing.

Painful discharge from bowels, offensive, dark and bloody. Cholera.

POULTRY SENSE.

BELLADONNA.

Vertigo, falling to side or backward, spasms, greenish discharge from bowels, swelling of neck and throat.

CALCAREA CARBONICA.

(CARBONATE OF LIME)

Where there is slow feathering, deformed eggs or soft shelled eggs, assists molting. In developing feathers, bone and egg shells.

CALCAREA FLUORICA.

(FLUORIDE OF LIME)

Ulceration of bowels, swollen neck and bumble foot.

CALCAREA PHOSPHORICA.

(PHOSPHATE OF LIME)

Assists molting, leg weakness.

POULTRY SENSE.

CAMPFORIA.

(CAMPHOR)

Cold in head (early stage) sneezing, constantly catching cold.

Cholera.

CHAMOMILLA.

Diarrhoea in little chicks, pasted up on vent, given with Podophyllum in alternation.

CHINA OFF.

Thin discharge from bowels, weak, acts as tonic.

Given to revive chicks who have been out in rain storm or cold, with a little Capsicum; put this in water and drop in throat.

IPECACUANHA.

Diarrhoea, green discharge. Rattling in throat.

POULTRY SENSE.

KALI BICHROMICUM.

(BICHROMATE OF POTASH)

Cold in head, discharge thick and stringy, ulcerated sore throat.

Diphtheria, cheesy deposits in throat.

One drachm to a quart of drinking water, to protect the flock.

KALI PERMANGANICUM.

(PERMANGANATE OF POTASH)

Intense irritation of nose, throat and larynx.

Diphtheria, throat swollen and covered with cheesy matter.

One drachm to a quart of water; good mixture to put into drinking water to prevent the spreading of disease to rest of flock.

POULTRY SENSE.

MERCURIUS CORROSIVUS.

(BICHLORIDE OF MERCURY)

Excoriating discharge from eyes and nose, sore tongue.

Bloody discharge from bowels, white diarrhoea, straining with prolapses of bowel, discharge liquid and irritating.

NUX VOMICA.

Leg weakness and constipation.

PODOPHYLLUM.

Thin discharge from bowels, diarrhoea matting down on vent, congestion of liver.

PULSATILLA.

Thick, profuse yellow, bland discharge from the eye or nose.

Blood in egg, or on shell, egg bound.

POULTRY SENSE.

RHUS TOX.

Eyes swollen, red, acrid watery discharge from eye, keeps eyes closed.

Ulceration of the cornea (pupil).

SENEGA.

Chronic bronchitis, difficult to dislodge mucus, rattling in throat.

SPONGIA.

Cold in head, swelling of eyes, discharge from nose, rattling of throat.

The ideal roup remedy.

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