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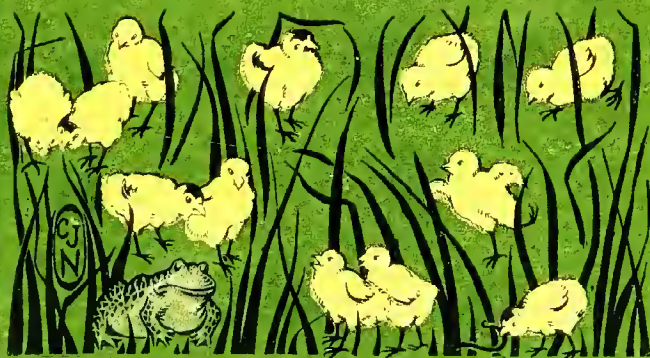
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CONKEY'S POULTRY BOOK

PRICE 50¢



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CONKEY'S POULTRY BOOK

A HANDY BOOK *of* REFER-
ENCE *on* POULTRY RAISING

Published by

THE G. E. CONKEY COMPANY
M a n u f a c t u r i n g C h e m i s t s
CLEVELAND, OHIO, U. S. A.

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TO THE POULTRY FRATERNITY



THE fact that many editions, over a million copies, of our former little book have been distributed within the past few years, offers convincing proof that it has met with favor and that it has been a benefit.

But every year in the poultry business, at a time when science is so rapidly applying improved methods, means changed conditions and many newly discovered facts; and a new and more up-to-date book is needed.

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With this book in hand you should have no difficulty whatever in naming and treating any disease known to the poultry yard or in meeting any condition in the various lines of poultry culture.

NOR DOES THAT END THE MATTER!

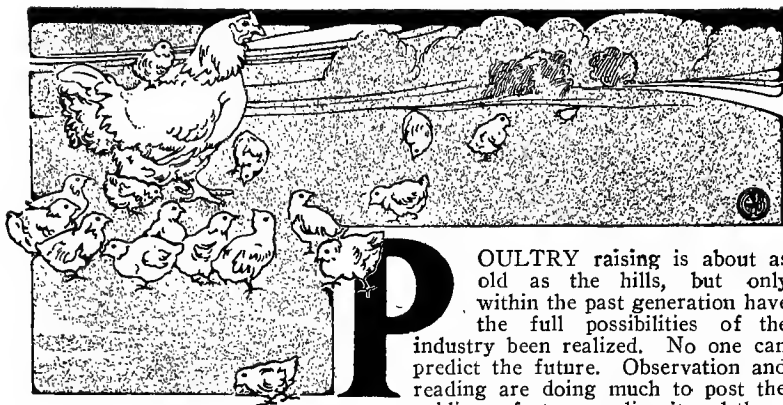
The best part of our lives have been given to the study of poultry. The result is not a hap-hazard familiarity with the subject, but a knowledge from years of close personal study and from the gathered experience of others, as well as from cautious and repeated trials on actual cases

WE INVITE YOUR CORRESPONDENCE and will be pleased to furnish any information in our power **ABSOLUTELY FREE OF CHARGE**. We are always glad to investigate, thoroughly and carefully, unusual and peculiar diseases. If you discover any peculiar, or complicated ailments, write us fully—your letters will have our immediate attention.

Yours for advancement,

THE G. E. CONKEY COMPANY,

Cleveland, Ohio.



POULTRY raising is about as old as the hills, but only within the past generation have the full possibilities of the industry been realized. No one can predict the future. Observation and reading are doing much to post the public on facts regarding it and there

seems to be no limit in sight—all that we know is that poultry raising is now one of the most profitable industries and that it is rapidly advancing. Capital is finding its way to investment in poultry raising, and into the manufacture of correct appliances for its further advancement. Poultry culture has the confidence of the general public and, while many will always fail from lack of application and proper regard for necessary conditions, these failures will be in no greater proportion than may be found in any industry that tempts the unworthy and the unfit by its promise of unusual profits. The course of any line of human endeavor is marked by the wrecks of those who fail, and who would fail in any venture where study and application are required. To the man who is willing to give it his earnest attention, his zeal and application, it offers the inducement of a healthy and pleasant occupation and the very best chance for money making.

WHERE TO START

In selecting a site for a poultry plant, you are not obliged to choose high priced land. If you can select well drained, well watered, gravelly soil, it would be desirable. If this land is somewhat wooded so much the better, as shade is a valuable factor in poultry raising, and must be supplied if there is no natural shade. If you can choose a plot where the ground slopes to the south, or southeast, it will provide the sun radiation so necessary for natural warmth and sanitation. Avoid a clay soil.

In laying out your plan for a house, see that it fronts a little east of direct south. The direct south would be right were it to be continual summer, but, when winter comes, you will need all the sun radiation you can find, and the slight turn to the east will provide it when it will do the most good. This position will shelter the front of the building from the west and northwest winds. If you have some good meadow land it will be of great value, for thereon you can grow clover, or it will produce corn and other cereals. It has been found that clover can be made the base of profitable feeding, and a poultry farm so situated that it may produce an abundance of green food is well selected.

Before you start to build, consider carefully the question of drainage. The surface water should run from the house—not towards it—and you must be careful that moisture cannot collect underneath the house to seep up through the floor. If water can collect under the house, you cannot well dry it, even with ventilation beneath. Cess pools under the house will endanger the health of fowls.

BUILDINGS

Various locations may require different kinds of buildings, and conditions of climate should be properly considered. It is impossible for us to state which exact variety of house is the best for you, without knowing just how you are located and all the points which enter into the subject. A house should be selected with due regard to its natural conditions, and all that we can do is to give you valuable ideas about the housing of fowls, and the various kinds of buildings, and let you select to suit your needs.

The poultry house does not need to be in any way fancy, either in fittings or design, but there are a few certain rules which cannot be overlooked if you are to expect success.

VENTILATION—The fowl uses up more oxygen from the air than any other breathing creature according to size. It has not sweat glands, never sweats, and gives off all moisture by the breath.

Now let us see if we cannot meet the requirements of nature in a house for our fowls. They must have plenty of pure, fresh air in order for them

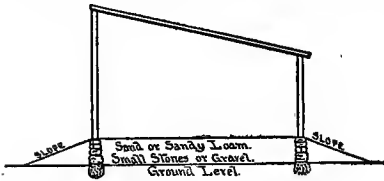


Illustration No. 1.

to obtain their natural, and necessary amount of oxygen. We can understand that moisture coming from the breath, directly into the cooler air, without having a chance to slowly evaporate as it would in coming through a coat of hair or feathers, will condense very quickly. This is why it is so necessary to have perfect ventilation to carry off this

moisture or the house will become damp and, in cold weather, a hoar frost will form on the inside walls.

DAMPNESS must be avoided to keep the fowls healthy. The warmer the air in a house the more moisture it will hold and, when this comes in contact with a cooler surface it condenses in the form of hoar frost in winter, and makes the air soggy and damp in summer, and it is common to say that the house sweats. The remedies for these conditions are, first be sure that you have a dry floor, and the second is diffusive ventilation to dry out the moisture in the air as fast as it appears.

DRAINAGE—If circumstances compel you to build on ground that is not naturally dry, you should make it so by building up your ground as

shown in illustration No. 1. Carry your foundation walls up to a height of eighteen inches, or more, if necessary, above the level of the ground, and fill in a foot of this with small stones, coarse gravel and cinders, and the remaining six inches with sand or dry, sandy loam. Then slope up on the outside to the bottom of the sills, as shown in illustration, and you will turn away the surface water and keep your floor dry if the ground is not entirely too wet about it.

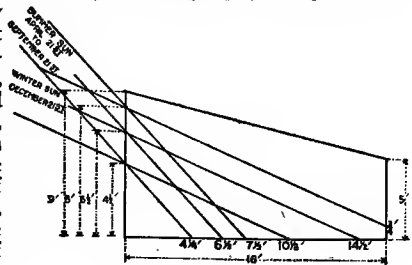


Illustration No. 2.

SUNLIGHT—The next important thing to consider is sunlight. It not only makes the house cheerful, but it provides a natural sanitation which tends to prevent disease, aids

in curing it, and gives fowls light to see grain scattered in litter. Have just the right amount of glass surface, as too much glass makes a house too warm in the day time and too cold at night. Glass is a ready conductor of heat and lets warmth out as quickly as it will admit it. Glass construction is also expensive. Do not allow more than one square foot of glass surface to twelve square feet of floor space and see that the windows are correctly placed. Set the windows high and up and down, not sideways and low. When they are high the sunlight passes over nearly the whole floor every day, drying and purifying the whole interior.

If you will look at illustration No. 2 you will see that the sun is at its lowest point from the middle of September to the middle of March, and that is the time when it is the most beneficial as it covers the coldest time of the year. Notice the lines showing the extreme distance that the sun would reach with the tops of the windows at $4\frac{1}{2}$, $6\frac{1}{2}$ and 8 feet from the ground. With the top of the window at $4\frac{1}{2}$ feet, the sunlight would never reach further back than 10 feet $1\frac{1}{2}$ inches. At $6\frac{1}{2}$ feet, it would reach 14 $\frac{1}{2}$ feet, while at 8 feet, it would strike the back wall of a sixteen foot house, $\frac{3}{4}$ foot above the floor. If lights of glass in window are too small, the sash seriously obstructs the light, while if lights are too large the glass will prove expensive on account of breakage. The proper medium between the two extremes is a size of 8 by 10 inches in a 12-light sash, using two of these windows for a house of 10x12 feet. Single sash is cheaper and also handier, as it can be hinged and hooked to the ceiling, or slid sideways when opened, instead of being raised and lowered as with ordinary sash.

BUILDING THE HOUSE

In planning your poultry houses, it is advisable to consider their location with reference to the economy of time and labor involved in attending to the flocks. It would, of course, be foolish economy to save steps at the expense of thorough care of the fowls, but many plans involve useless time and labor and, in the course of a year, the loss amounts to a considerable item. Convenience of operating is a wise forethought.

Poultry houses may be briefly classed as follows: Continuous houses and colony houses, and either of these may be made in three styles—open, closed, and curtain front, and may also include all the intermediate styles that may come under these classifications, to meet the various ideas of different people and to meet different conditions, but the above classification is correct for all practical purposes and they will all come under these several heads.

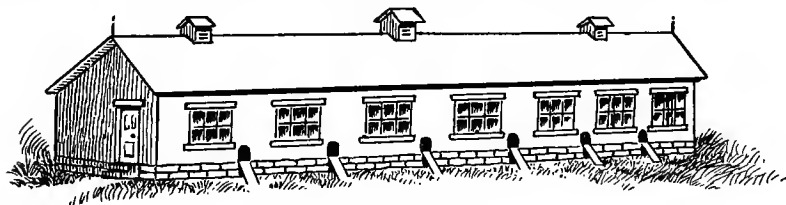


Illustration No. 3.
The old style long poultry house.

THE CONTINUOUS HOUSE—The continuous house means several houses under one roof, with partition walls, the wall of one house forming the wall of the next. The advantages of this style are cheap building,

and saving time and labor in caring for the fowls. Its disadvantages are

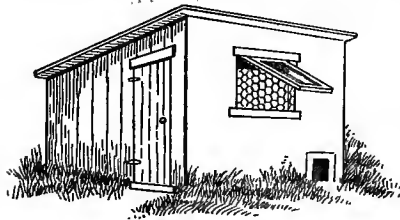


Illustration No. 4.

The old-fashioned colony house.

in the difficulty of keeping free from vermin and the danger of contagion in case of sickness. Many poultrymen claim that the advantages and drawbacks balance each other and that the extra care involved equals the labor of the colony house plan.

THE COLONY HOUSE—

With the colony house, each house is separate and distinct and each is really a poultry plant in itself.

Such houses may be separated

at distances to suit the poultryman, according to the amount of traveling he cares to put into the labor of attending the flocks. If open range is allowed advantage is taken of the instinct of the fowl to return to its own home to roost. The colony house gives a better chance for protection against disease, though it involves extra labor on account of the distances at which the houses are separated.

THE CLOSED HOUSE—The closed house represents the older method of housing the poultry. It has many advocates today and, whatever the internal improvements may be, the ventilation must always depend upon opening and closing of doors and windows after the manner of years gone by.

THE OPEN FRONT HOUSE is a popular modern idea and its advocates claim much for it. The house is made with unusual depth and with perfectly tight walls, except at the front, which is low and entirely open, without curtains or windows. While this allows absolute ventilation, it avoids drafts on the same principle that it is difficult to blow into a bottle that is tight at every point except the opening. The sloping front and back allow the birds to roost well up in the peak, where the heat from their bodies keeps them warm. This is, perhaps, an extreme, and you will find it modified in the Curtain Front House.

THE CURTAIN FRONT HOUSE—The curtain-front house is coming into favor every day. It will doubtless be in universal use before a great while, as it solves the problem of ventilation without drafts. It is a rather curious fact that a frame covered with muslin will afford a better protection against cold than a sash of the same size with panes of glass. It has been proved an excellent plan in every case where it has been properly tried. It allows the air to filter through the mesh of the cloth in a way that keeps the air in the house dry and provides sufficient oxygen for the fowls. At the same time it breaks up the currents of air, and prevents drafts by mixing the air thoroughly before it can reach the fowls. It will, however, produce shade where glass will not, and will prevent sun radiation unless you also have glass windows to use in winter days when the sun is shining. Many poultrymen provide for this by having the cloth covered frame so that it can be hinged and hooked to the ceiling, while the sash and glass can be slid from one side to cover the openings when the covered frames are elevated. In southern climates, where the windows can be left open on a winter's day, no sash or glass will be needed and, even as far north as the state of New York, there are many poultrymen who claim that no glass is needed at any time or in any climate.

At the Michigan State Experiment Station, when the thermometer registered twenty degrees below zero, for many days at a time, these curtained

windows afforded ample protection and the fowls kept on laying without the least interruption or falling off. On the coldest nights, however, an extra curtain was hung in front of the roosts. It was a most severe test of the value of cloth as against glass, in a very cold climate, and the fact that the fowls were comfortable, had no frost bitten combs, and kept actively laying, proves the great value of the idea.

It may be well to mention right here that where roost curtains are used, the too careful poultryman is apt to use them when they do more harm than good. Never use the roost curtains unless the weather is colder than twenty degrees above zero.

The only warmth needed in a poultry house is that given forth by the fowls' bodies; therefore the higher you build your house the colder it will be. A low house is much easier warmed than a high one. If you will make it as low as you can and still give you room so that you will not bump your head, you will have plenty of air space for as many fowls as you have floor space for, on the rule of five to six square feet of floor per fowl. You will find the continuous house warmer than the colony house, as cold walls radiate heat rapidly.

ROOF—The cheapest form of house to build is the square one, and the nearer it is square the warmer it will be, but there is the valuable factor of sun radiation to be taken into consideration, and we would advise that the depth of the house be not more than fourteen feet and twelve would be better. The sanitary rays of the sun are of much more value than the slight difference in temperature and cost.

The cost of a poultry house is influenced by the shape of its roof. We would advise the single span, shed roof as the easiest to build and the most advantageous. It gives the highest point at the front, or south, and the best shelter at the back. It sheds all water at the back and keeps the front dry and cheery. It also allows the arrangement of the windows to be such as to throw the sunlight back into the house. If it slopes towards the north, a tarred paper, or prepared roofing, will last much longer as it is not exposed to the vertical rays of the sun, and this also makes the house much cooler in summer.

FAULTY CONSTRUCTION—In illustration No. 5 you will notice some examples of faulty construction. No. 1 has the windows too low and set horizontally; it will afford but little sun radiation.

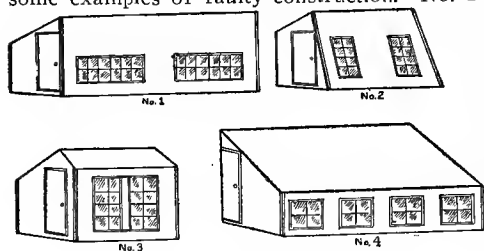


Illustration No. 5—Don't build like this.

it unbearably warm in summer, and the high north wall will make it cold in winter. There is not a grain of good judgment in any one of these houses and we show them that you may avoid any building not justified by common sense and ordinary philosophy.

FLOOR SPACE—From 5 to 6 square feet of floor space, and from 30 to 36 cubic feet of air space, for each fowl, is about the right basis of

measurement in planning a poultry house. A house 15x12x7 feet high in front, and five feet high at the back, with a single span roof, will have 180 square feet of floor space and 1,080 cubic feet of air space, which allows a flock of thirty fowls ample accommodation.

Look out for dampness, as it is fatal to profits. The warmer the air in the house the more moisture it will hold and, when this comes in contact with a cooler surface it condenses in the form of hoar frost in winter, and makes the air soggy and damp in summer, and it is common to say that the house sweats. The remedies for these conditions are, first be sure that you have a dry floor, and the second is diffusive ventilation to dry out the moisture in the air as fast as it appears.

EXPERIMENT WITH CURTAIN FRONT—Illustration No. 6 shows how an experiment was tried on the Lone Oak Poultry Farm at Reading, Mass., with muslin curtains. They were troubled by moisture condensing on the walls and roof at night, and then dripping on the floor during the day. They made light frames one-fourth the size of each window and covered them with one thickness of ordinary muslin. Where the window

was dropped one fourth and the curtain set in, as in Figure No. 1, Illustration No. 6, it resulted in a slight draft. When they used the muslin at top and bottom, as in Figure No. 2, it created considerable draft, but where used in the whole half of the window, as in Figure No. 3, they found that it gave excellent ventilation, without draft, and the condensation of moisture ceased. This, however,

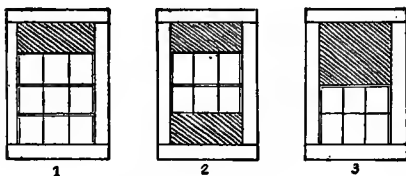


Illustration No. 6.

does not present the full curtain front idea, being only an illustration of the principle in a small way.

CURTAIN FRONT—It is difficult to predict where the curtain front house is going to stop. We know that curtain front poultry houses, open entirely during the day, even in cold weather, and closed only by curtains during the cold nights, are being tried farther and farther north, without any falling off of egg laying, and with the excellent result of hardier and more active fowls and a lower percentage of sickness than was ever before known. That there is a limit to this experiment no one will deny, but it has not yet been reached and every step so far has been of benefit to the fowls and greater profit to the industry.

To keep the house cool in summer and warm in winter is a matter of great importance. It solves the great problem in all-year-round egg production for you are simply imitating conditions under which the hen complies with nature in the most productive, natural season. The difference in temperature and sunshine are the main reasons why more eggs are produced in one season than in another. Thus your housing has much to do with continuous egg production.

It is our intention first to explain the various general principles and features of poultry house construction, so that you may get a fair idea of the problem to be tackled. It is no use going into the details of building until you have a clear idea of what you are building for. All this preliminary talk will familiarize you with the subject and give you a foundation for intelligent choice for your own particular needs. You are not building for a man in Greenland—you are building for yourself, on your own land, and according to your own bank account.

INTERIOR OF HOUSE

There are some general principles that should be followed as the result of the experience of others, and this experience is a capital in your business which costs you nothing and which you cannot afford to neglect. Any devices that save labor, protect against vermin, promote the health of your fowls and add to your profits, should have your keenest investigation. Some of them may appear to be small matters, but they have cost others much thought and worry.

FLOORS—Have the floors of your house clear—that is have no fixtures on the floor level. Roosts, feeding troughs and drinking founts should be on platforms elevated from the floor, as it will be very much easier to keep the floor clean if it is free from fixtures of all kinds.

The kind of floor rests with you as a simple problem of cost. If you wish the very best, a cement floor is the most sanitary and lasting, though its first cost is high. If you wish the next best, we would advise the board floor, as it can be easily cleaned. The earthen floor remains to those who feel that they cannot afford the others mentioned. While it is much used, it has the disadvantage of absorbing the droppings of the fowls and will require digging out and renewing at more or less frequent intervals. The processes of laying board and cement floors will be found under different headings.

EARTHEN FLOORS—Fill in up to the sills with small stone, or coarse gravel, pound it down well and cover with earth and, if you mix the earth with coal ashes, it will make a good, hard floor after being well tamped down. This raises your floor so that surface water will run away from it. If the ground is, unfortunately, in a hollow, it will be well to raise your sills much more than eight inches and, in some cases, eighteen inches would be little enough.

BOARD FLOORS—In laying a board floor, allow for an eight inch space beneath it, with openings for ventilation and for the cat to get in and out to drive out rats and other marauders. Have floor tight and level.

CEMENT FLOORS AND FOUNDATIONS—Concrete is not as expensive as stone, where the stone is laid in mortar and pointed up, and is much more satisfactory. It is equally as rat proof, less liable to heave by frost or moisture, and is easier to make. For such a light building as a poultry house, the foundation walls need not be more than eight inches thick, but they should extend below the frost line so that they will not be disturbed. To make a grout (cement) wall, you must make a frame or mold to hold the soft material until it has set or hardened. First drive a stake where each corner of the building will come. You can then stretch a cord to stakes driven two feet beyond each corner in all directions. Other lines may be stretched from stakes eight inches inside the corner posts, to mark the inside limit of the wall. The trench must be dug enough wider to permit of driving stakes for the retaining frame, and such stakes must be driven on the outside surfaces of the retaining frame so that the mold will have an inside surface that will make the wall smooth on both faces. The wooden frame should be perfectly level on the top so that your building will also set level.

The best Portland Cement is the cheapest, and use only clean, sharp sand. Mix one part of cement to four parts of sand when dry. To this add five parts of clean gravel or fine cracked stone. First mix thoroughly when dry, and then mix with water until every particle of cement is evenly

mixed throughout the mass. The whole secret of good solid work is in the quality of cement and sand, and in the most thorough mixing. When in a soft condition it should be thrown into the frame and well tamped. It will require a day or two for the wall to set, when the frame can be removed and the trench filled in with earth.

The cement floor is drier than any other and, as it is more durable, great care should be taken in laying it. Your floor should have a properly drained foundation, which is provided for by filling in with fine stone to within two inches of the top of the foundation walls, and over this should be spread the same kind of grout used in the foundation walls. Then lay your sills on the foundation walls perfectly level. On top of the floor lay a dressing of one part of cement and four parts of sand. This should be troweled perfectly smooth and level, and should be well flushed up against the sills to prevent the entrance of moisture between the sills and foundation. Some prefer to embed the sills in the top of the wall, making wall flush with top of sill.

ROOSTS—Roosts should be made of 2x3 stuff set edgewise with corners slightly rounded. Many patent roosts have oil cup attachment to prevent mites from crawling on the fowls at night, but while they are excellent, they are not absolutely necessary, as the poultryman can keep the houses entirely free from mites and other vermin by using the proper exterminators and attending to them frequently.

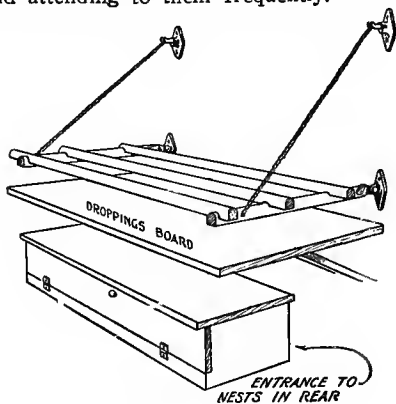


Illustration No. 7.

DROPPINGS BOARD—

One of the greatest necessities is a droppings board under the roosts. It should be made easily removable for cleaning and is one of the best safeguards for sanitation. The usual way of arranging the roosts is to have them close to the north wall, and at about half the height of the wall. Below the roosts is the movable droppings board and below the droppings board are the nests.

NESTS—These should be easily movable and rest on the floor. The entrance should face the rear of the house which will prevent the fowls from throwing litter into the nests

while scratching, and it will also help to keep the nests dark and prevent the egg eating habit.

TRAP NESTS—Trap nests are different in construction from ordinary nests. They should be located along the side wall. One trap nest for every five hens will be plenty. Trap nests are not easily removable so will require extra care to keep them clean. These nests differ from ordinary nests in having no way of escape for the hen after she once enters the nest. There are many styles of trap nest on the market. The poultryman can take his choice—the simplest being the most practical—or he can make his trap nests at home at small cost. Of course there is some extra labor connected with the trap-nest system. The nests must be visited at frequent intervals during the day and the laying hens liberated. But in these days the trap nest is a necessity. It weeds out the non-layers and the lazy layers, or rather it gives

the poultryman a chance to do this—for with his trap nests to show what each hen is doing he can tell which fowls are money makers, and which are merely boarders and loafers. Laying qualities will vary greatly, even with hens of the same strain and under the same good treatment. Keep the hens having the best trap nest records. Watch the winter trap nest records especially. Keep these profitable birds for breeding.

One of the greatest helps of the trap nest system is that it makes it possible for the poultry man to identify each egg, know just which hen laid it and by her record decide whether it should be kept for hatching. It isn't always the good looking hen that lays the egg and frequently some of the best layers are sacrificed at the end of the season, while good looking but poorly performing fowls are kept over for breeding. Then the poultryman wonders why it is that his stock grows more and more shiftless about laying. The man with the trap nest knows—not only what each hen is doing but what he himself is doing by his system of working.

THE FRESH AIR HOUSE

The Tolman Twentieth Century Fresh Air House is probably the most popular of the extreme type in this house and the steady increase in the number used each year indicates they are giving general satisfaction. With this house the south end is run wide open summer and winter, storm or shine. It can be used in the coldest sections of the United States and many parts of Canada, but in bleak and extremely cold locations where the temperature goes to zero and frequently below it would be well to arrange a coarse muslin curtain to drop in front of the roost platform at night during the most severe weather. There are several strong points in favor of this house, the chief one being that it promotes health, vigor, a good egg yield with increased fertility and solves the question of perfect ventilation. Breathing a greater amount of oxygen, creates a better circulation of blood and the fowls are kept in the best physical condition all the time. The peculiar construction of the house and position of the roosts makes it comfortable for the fowls at night and prevents any danger of their roosting in a draft. Owing to the good ventilation the house is dry and free from frost at all times.

This fresh air house is a very simple one to construct, being a plain hip-roofed building with a long pitch of the roof to the front or south. For the roof, east, west and north sides, inch boards shingled are recommended, however, any material suitable for poultry house construction can be used so long as the walls are perfectly tight. When a small house is built it should be eight feet wide by fourteen deep, four feet high in front, five feet at rear, and about seven feet at the peak of roof. The originator favors a size somewhat larger than this to meet the requirements for all kinds of weather and locations with a capacity for from 65 to 80 layers. This house should be fourteen feet wide by twenty-

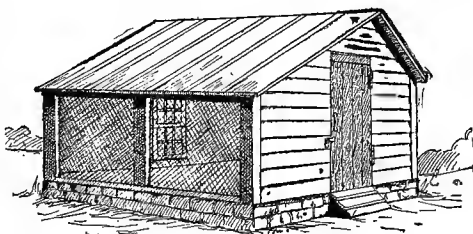


Illustration No. 8.
The Fresh Air House.

one foot deep, six feet high on the north and four and one-half on the south. The highest part of the roof should be ten feet from the ground. In either size house a full size window should be placed in the middle of the west side and the door in the center of the east side opposite. In operating this house in the summer both the door and the window are removed and replaced with wire netting. The south front which is always open is covered with one inch mesh wire netting and a gate in this gives the fowls access to the yard. A double boarded floor is recommended and roosts and droppings board should be built along the north wall as in other houses we describe. In such a deep, narrow house the roosts will extend farther out towards the front than is usual and for this reason we would place the nests along the front west wall, keeping them up from the floor.

A STANDARD POULTRY HOUSE

Another very practical house is the Standard Poultry House. We give it this name because it is equally serviceable for the farmer or for the regular poultryman. The poultryman's experience in the business may justify him in paying out more money for poultry house construction than the farmer, or the amateur, may care to invest; so we describe different ways of making floors, etc., that a choice may be taken in the matter of cost.

The design we give is subject to as many additional pens as may be desired, though the length given, 32 feet, allows for two pens accomo-

dating from 35 to 40 fowls each. The house will be 12x32, or 12x16 for each pen. Considering the height of seven feet in front, the depth of twelve feet is sufficient, as we require the sunlight to reach back as far as possible.

For the cheaper construction, this house should rest on cement piers or, where they are not available, on posts driven into the ground. There should be twelve of these piers, one at each corner, one

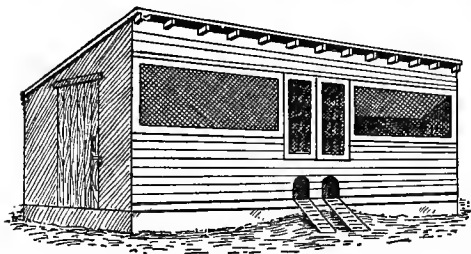


Illustration No. 9.
Standard Poultry House.

at the middle of each end, and three at front and rear at equal distances between the corners. Remember that the number of piers mentioned provides for the whole building of two compartments. These piers should extend below the frost line and, at least eight inches above the ground. The sills resting on these piers should be of 4x4 scantling, while all the rest of the frame can be of 2x4 stuff, except the rafters which should be 2x5.

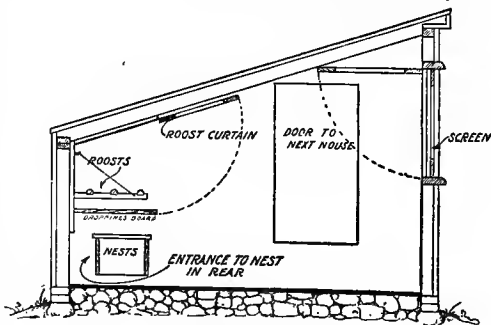


Illustration No. 10.
End View of Standard Poultry House.

WALLS—The walls of this house, on every side except the south, are made of one inch thickness of matched pine lumber, and it is best to put the planed side inside, as it improves the appearance and is more easily whitewashed. The outside, except the south, is covered with a thickness of good roofing, and should be painted some light color that is more attractive than the original color of the roofing, and it also adds to the durability, which counts in poultry house construction. The only part that is double boarded is the portion that is directly back of and above the roost platform and as far as it extends forward. An air space is formed between the studding and the outside boarding and, if you will leave a little opening at the top and bottom of the inner boarding, the warm air of the house interior will circulate through the space and will keep it warmer than if the air were dead. The circulation mentioned will keep the inside plate warm and will prevent condensation of moisture to a wonderful degree.

FRONT—The front of this house is made of one thickness only of ordinary cove siding and is without paper, making a loose construction. This kind of a wall warms up the inside air when the sun is shining and the warmth does not readily pass out because the other three sides are free from draft. It may seem a little strange that if a window is left open in the front of a street car vestibule, the motorman who sits directly opposite will notice but little wind, if he keeps the door closed behind him. If your three walls and top are tight, the air can only come in gradually at the front and can, therefore, change the temperature but very slowly. The principle is the same in either case.

In making the frame work, the studding is placed four feet apart and the rafters two feet apart from centers. The boards are laid horizontally. Nearly the whole front is filled with window and other openings, and is of cheap and easy construction. This house provides fresh air in abundance without drafts, and will insure all reasonable dryness. It is as warm as it can be, while securing ventilation and freedom from dampness, without having artificial heat, or heat from overcrowding the fowls.

The well ventilated house allows the moisture to pass away without condensing on the walls, and is much warmer than a tightly closed house, as moisture makes a house cold by evaporation, as you would cool a room by sprinkling the floor.

The house should have an abundance of sunlight for several reasons: Fowls do not like dark places except when sitting or laying or else when they are sick, and the light is necessary for sanitation. If the windows are placed near together, as shown in illustration, both pens will receive the light from both windows providing that the front portion of the inside partition is of wire netting. There will be ample room for door in partition, thus avoiding draft in the continuous houses.

WINDOWS—The windows should measure about 3x5 feet and can be fitted with 8x10 glass. They are stationary and should be screened with

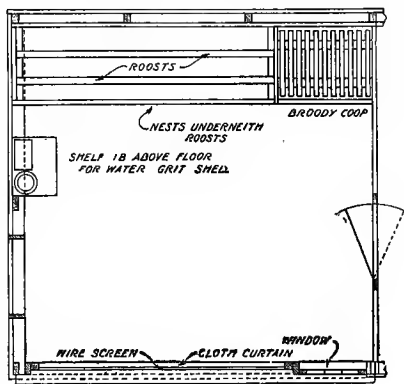


Illustration No. 11.
Ground Plan of Standard Poultry House.

a wire netting on the inside to protect the glass should the fowls attempt to fly through the window. Each apartment is also covered with a muslin-covered frame 10 feet by 3 feet 4 inches, that can be raised or lowered as required. The bottom of the opening is 3 feet 4 inches from the floor. As all openings come nearly to the top of the roof, they will provide for the escape of warm and foul air in hot weather.

SCRATCHING SHED—You will note that this house is a scratching shed over the whole area, as all roosts and fixtures are raised from the floor on platforms, leaving a clear space for the litter in which the fowls exercise.

THE DOUBLE-DECKED HOUSE

The next house that we illustrate seems, at first glance, to be a small affair, but it is really a case of making the most of a given space, and will accommodate forty fowls in each pen, or eighty for the double house, at a cost that should not exceed fifty cents per hen for building. There are a great many features of this house that will appeal to the practical poultryman

and it would be wise to investigate its merits before fully deciding upon your method of building.

This is really a two-story house, having its scratching shed on the lower floor. If you will take the measurements from the bottom of the door to the roof, you will notice that the full height of the ordinary house is provided for upon the upper floor, 7 feet in front and 5 feet at back. One difficulty of a scratching shed is the fact that a fowl always scratches with its head to the light, so

the litter will always be found piled up in the darkest corner where it is the hardest to get at. The utility of this form is that the rooms are entirely independent, and there is nothing to prevent having tight windows at opposite points on the lower floor. The temperature is not such an important part as upon the upper floor. The lower compartment also provides an ideal place for a dust bath, thus avoiding dust in the roosting and living quarters. There is no reason why the upper floor should not also be used as a scratching floor, which will allow more square feet per fowl than is usually provided for.

This house is much used in the west; it admits of all modern improvements and conveniences, and we can see no reason why it should not become popular in any location and climate. Besides all this, the house is really much handsomer than the usual squatty, shed-like structure, is a saving in labor and money, and is of compact cheap construction.

The elevation of the house as shown in illustration No. 12 is ten feet at front and eight feet at back, but it can easily be made higher if more height is desired on the lower floor. It is ten feet deep by twenty-four feet long, providing two rooms (upper and lower) to each pen 10 x 12 feet, making 480 square feet of floor space under a roof one-half the size usually necessary for the same accommodation. There is a labor saving in cleaning and the house can be extended by as many pens as may be desired.

The original idea of this house was to have a dirt floor on the lower

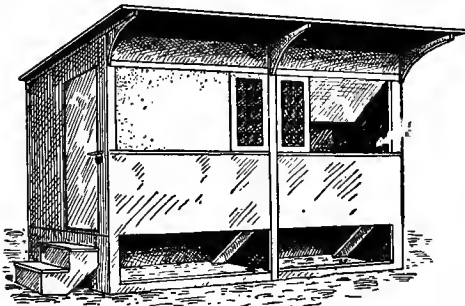


Illustration No. 12.
The Double-decked Poultry House.

story, but we would prefer a board or cement floor for sanitary reasons. No matter how carefully you may rake or scrape a dirt floor, a portion of the filth always soaks into the ground, and it is next to impossible to get rid of it. The accumulation eventually becomes dangerous to the health of the fowls and we consider the extra cost of a floor a very wise investment.

Note some other excellent ideas in this illustration. The roosting room has splendid ventilation and the use of curtained frames provides all air needed without drafts. For very cold climates roost curtains can also be provided as described for other houses.

The projecting roof on front makes a good rain protector and keeps the water from the lower story. Front curtains are 9' 6" x 3'—the full width of the cloth, and the openings could be made still larger as required. Common unbleached muslin makes an excellent curtain. The interior can be arranged as described for the standard house, with elevated roosts, feeding troughs, drinking founts, etc. If deemed advisable, curtains can also be provided for the lower floor for use in colder weather, and could be hooked to the ceiling when not required.

This house will cover eighty head of grown fowls nicely, and if cleaned regularly, as any house should be, and the inside whitewashed once in six months, it will provide for all the requirements of the careful poultryman and keep his fowls in absolute health, activity, and comfort. See illustrations Nos. 10 and 11, Standard Poultry House, for interior plans.

In the houses which we have illustrated, all the principles of correct housing have been fully set forth. We might go ahead and show plans for a dozen shapes and styles and be no better advisers to you than we have been here. Construct your houses in any manner suitable to your exact case, let the houses be continuous, or colony style, but keep in mind the great ideas of DRY FLOORS, ABUNDANT VENTILATION, NO DRAFTS, and you cannot go astray, always providing you do not overcrowd. Build large enough to accommodate the full number of fowls you expect to keep.

SELECTION OF BREEDS

This subject may well be considered the foundation to success or failure in the poultry business and it should receive your careful thought. You are going into the business for profit, so do not be content with scrub stock for it makes a poor investment. We do not mean that you should purchase "fancy fowls" or "show birds," but endeavor to obtain thoroughbred fowls or eggs from thoroughbreds.

The poultry business is no exception to the rule that if you desire paying results, you must have a *foundation* for success, and no man can succeed who builds with poor stock. It costs no more to feed and care for a standard fowl than a mongrel, and you cannot realize high class results from the latter. From such attempts have come some of the failures recorded against the industry. You would not try to run a dairy without the very best grade of stock, nor would you expect the best crops without planting the best seed obtainable. This is the point on which many poultrymen fail, so make it a point to start right. Select a breed that is making a good showing for your particular purpose; and have your stock of some reliable strain. Make sure that the birds are healthy and vigorous individuals.

In every line you will find the man who has a hobby. Watch out for

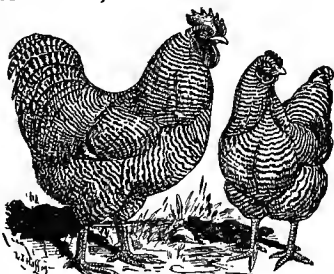


Illustration No. 13.

Barred Plymouth Rock—American.

him. He is a good talker, believes in himself and his hobby, and is forever seeking converts to his wonderful ideas. Follow the advice and methods of the man whose ideas are paying him and whose experience is showing in actual dollars and cents. It is a case where money talks and outweighs fads and fancies. Experience is often an expensive teacher, so let the knowledge of the man who is winning be a help, and take the short road to profit.

It is generally more profitable to keep but one breed of fowls, and much care should be exercised and investigation made regarding the stock for the climate and location, instead of going into the business blindly.

DIFFERENT BREEDS—The space in this little book will not allow us to fully describe all the different breeds of fowls. Every poultryman should procure a copy of "THE AMERICAN STANDARD OF PERFECTION," which gives the weight, shape, markings, and color of each breed for male and female, as well as all points for judging value. This book, which is published by the American Poultry Association, is the guide for all poultry judges in the awarding of prizes. It is revised every five years and sells for the uniform price of \$1.50. The most popular breeds just now seem to be the Leghorns, Wyandottes, Plymouth Rocks, Rhode Island Reds and Orpingtons. But we must not infer from this that there are not other breeds with qualities equally good. According to The Standard of Perfection, the different classes of fowls may be noted as follows:

AMERICAN CLASS—Plymouth Rocks, Wyandottes, Javas, Dominiques, Rhode Island Reds, Buckeyes.

ASIATIC CLASS—Brahmas, Cochins, Langshans.

MEDITERRANEAN CLASS—Leghorns, Minorcas, Spanish, Andalusians, Anconas.

ENGLISH CLASS—Dorkings, Redcaps, Orpingtons.

POLISH CLASS—Polish.

DUTCH CLASS—Hamburges.

FRENCH CLASS—Houdans, Crevecoeurs, La Fleche, Favorelles.

GAME AND GAME BANTAM CLASS—Games and Game Bantams.

ORIENTAL GAME AND BANTAM CLASS—Indians, Sumatras, Malays, Malay Bantams.

ORNAMENTAL BANTAM CLASS—Sebrights, Rose Comb, Booted, Brahma, Cochin, Japanese, Polish.

MISCELLANEOUS CLASS—Silkies, Sultans, Frizzles.

In the Standard of Perfection the above classes are again subdivided into the several different varieties of each particular breed, but our space allows us only to mention them in a casual way.

DUCK CLASS—Pekin, Aylesbury, Rouen, Cayuga, Call, East India, Crested, Muscovy, Indian Runner, Swedish.

GEESE CLASS—Toulouse, Embden, African, Chinese, Wild or Canadian, Egyptian.

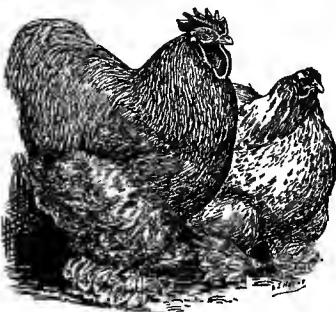


Illustration No. 14.

Cochin—Asiatic.



Illustration No. 15.

Orpington—English.

TURKEY CLASS—Bronze, Narragansett, Buff, Slate, White, Black, and Bourbon Red.

FEEDS AND FEEDING

If you are running a machine, the quality and quantity of your output must depend very much upon three points: the kind of machine you use, the quality and quantity of raw material which goes into the machine, and the kind of a man you have to run it. In this connection the domestic fowl may be compared to the machine. The feed is the raw material which goes into the machine and it must be balanced correctly to produce eggs or meat—which ever you are trying to obtain. The man in charge should know his business, not only to correctly feed the machine, but to properly care for it, repair it, and keep it in working order. It sounds easy, but every poultryman knows it is a problem worthy of much study and attention.

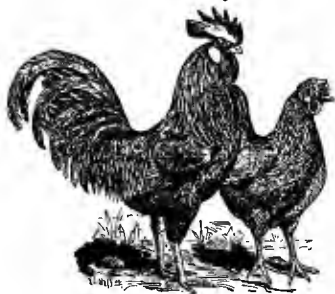


Illustration No. 16.
Leghorn—Mediterranean.

The first thing is to realize a few facts regarding the domesticating and training of what was originally a wild fowl in the jungles of India. Nature made her lay but twelve eggs a year, and then only in

proper season. We have trained her to lay 160 eggs a year and at all seasons and, while many people who do not know, tell you to follow nature, don't attempt it, for it is a hindrance to the poultryman instead of a help. In this day of advancement a poultryman must follow science instead of nature. It is dead against the nature of a fowl to lay an egg in winter, and that is when we demand them because we can secure high prices then. We must have our feeds very much better, and easier to assimilate, than nature contemplated, and we must give more warmth and care than nature provided. We are demanding very unnatural results under very unnatural conditions and must make up the difference.

A certain percentage of the failures that poultrymen have met with is directly due to the matter of feeding and an entire flock can be ruined in a very short time by improper and careless feeding.

To maintain perfect health and vigor in your fowls you must consider for what purpose you are feeding, and give them a balanced ration, which means a supply of food containing every element necessary to properly supply all that you demand and at the same time insuring the health of the fowl under forced confinement and unnatural conditions. You should understand the value of foods and supply them intelligently.

We might go into the question of special feeding for different purposes; feeding the little chicks; feeding for broilers; for roasters, etc., etc., all of which require special consideration. But, in the limits of this little book, we can only touch the subject lightly here and there and give you a fair idea as to general requirements. While we will do our best to give such hints as our space will permit, we wish to impress you with the fact that there is a deep study coming to the man who wishes to succeed: that it is not guess-work or hap-hazard chance, but a subject for thought and serious attention of the man who has his money invested.

In poultry journal items, and in scientific treatises on feeding, an ordinary man runs up against a lot of terms which he does not usually understand, and, even when he becomes familiar with them by seeing them often,

he still fails to fully grasp their meaning and application. We will endeavor to explain a few of them in the simplest possible manner.

PROTEIDS—Proteids are the foods which renew the waste of the fowl. In any animal there is a continuous process of waste which must be as continuously renewed. In the fowl there is not only the natural wear of the body, and the natural excretions of moisture, etc., but there is manufactured and voided each day, an egg of the average weight of one and three fourths ounces, which would equal three pounds in human beings of average weight could they be forced to do a like stunt.

CHICK FEED—Mixture of 1 part each, by weight, of Corn, Wheat, Hulled Oats or Pin Head Oat Meal, and Kaffir Corn, cracked, screened, and sized suitable for chicks. To this add 1 part of Millet Seed, $\frac{1}{2}$ part Grit (chick size), and $\frac{1}{4}$ part Charcoal (chick size). We would also recommend any of the high-grade chick feeds on the market.

The elements of food which build up the young chick in bone, flesh (not fat) and feathers, and which supply the tremendous waste in the grown fowl, are called proteids, and life cannot begin or continue without them. Protein does not come alone in any one food, but is mixed with other elements. The following list of foods are very high in proteids and are, therefore, called protein foods: Cottonseed Meal, Flax Meal, Linseed Meal, Gluten Meal, Brewers' Dried Grains, Malt Sprouts, Wheat Middlings, Bran, etc. Now: because of their high protein value, these various foods are rich and they must not be fed as liberally as you would ordinary ground grains. The fowl

can take up into its system a certain amount of protein. If you feed more it is wasted, and what is worse, taxes digestion and bowel trouble is sure to follow. Many formulas recommended by common authorities are far too strong in oil meals. Include protein feeds, but watch the limit carefully. Protein is always an expensive food element, so do not waste it.

CARBOHYDRATES—These can be called the fuel of the body, as they furnish the heat. It is necessary to keep the body warm besides building it up. We burn coal to keep a living room at seventy degrees of temperature and carbohydrates must be fed to keep the fowl's temperature at its normal point, (which is above fever heat in man), or the fowl becomes chilled and dies. Carbohydrates furnish the steam to warm the egg factory and the strength with which to manufacture the proteids into eggs and new material. Carbohydrates also produce fat and make a fowl lazy and inactive unless the fowl can be made to exercise. Exercise consumes the carbohydrates in the blood, leaving the blood rich in protein to make the egg and to build up, and keep up, the wearing parts. Carbohydrates are the starchy foods, such as Corn, Cornmeal, Cob Meal, Hominy Meal, Ground Oats, Barley, Buckwheat, etc. You will find it pays best to feed a variety of grains, mixing them or feeding one or two at one meal and a different kind the next. The body gets fuller food value when there is this variety. Vary from time to time, but never make sudden changes. For instance, on a cold night a good idea is to feed all whole corn, but in milder weather mix oats with it.

GROWING FEED—Equal parts Wheat, Cracked Corn, Kaffir Corn, and Hulled Oats. Use no Oats with hulls nor Barley or Buckwheat until chicks are at least two months old. Use Beef Scraps in hopper or in mash feed, Ground Green Bone, or Blood in mash.

MASH FEED—By weight as follows: 2 parts Bran, 1 part Ground Oats, 1 part Corn Meal, 1 part Middlings, $\frac{1}{2}$ part Gluten Meal (if obtainable). To this mash can be added cooked vegetables, or steamed Alfalfa or Clover, but not to exceed $\frac{1}{4}$ of the whole mash; Beef Scrap 12% to 15% of the mash, but omit if Beef Scrap is already fed from the hopper.

ANIMAL FOODS are full of protein and take the place of bugs, worms, etc., that the fowl finds in her natural season for laying. They are Milk, Beef Scrap, Blood Meal, Green Bone, etc. Such foods (rich in protein) are positively necessary, but take care not to overfeed. A good plan is to feed beef scrap in a hopper, letting the fowls help themselves, just as they pick up bugs for themselves in summer. Many prefer to include animal food in the mash feed. Milk in its various forms is often fed this way. Of course milk is one of the best animal foods. In feeding green bone, be careful not to feed too much, or bowel trouble will surely follow.

GREEN FOODS—These take in all kinds of fruits, vegetables and growing grasses and grain. Alfalfa Meal, Clover Meal, Sprouted Oats, Cabbage, Beets, etc. All fowls should have some green food daily, to get the best results. One of the most valuable of green foods is sprouted oats, for which read special section. Like the others green foods help furnish the domestic fowl with its properly balanced food supply according to the needs of nature.

BALANCED RATIONS—A balanced ration is one so made that it furnishes just what the fowl needs. Balanced rations are selected and compounded from the foregoing according to knowledge of what is required, at various seasons, to produce eggs and meat in addition to maintaining normal health and vigor. We must take into consideration that we demand vastly more from the fowl than nature ever did; that we twist the seasons so that the fowl will lay in winter, and that we have to supply food to meet these requirements over and above what nature would provide when the fowl was idle. We are giving a few formulas for feeds and, while they are excellent in themselves, they should be frequently varied. Ingredients of *equal value* should be substituted as often as possible. Fowls cannot thrive on a continuous diet, but, like ourselves, require a change. Their appetites flag on one line of food and your profits grow correspondingly less.

OTHER FEEDING POINTS—It is not only what to feed, but how much and how often, that determines success. A laying hen should have at least six ounces of food per day, which seems an enormous quantity in proportion to her weight, until we consider the great drain upon her.

Beginners are very apt to forget some of the essentials of poultry feeding, the lack of which causes serious complications and disorders. Grit, Oyster Shell, Mortar, Charcoal, Green Cut Bone (or other animal food, and pure fresh water, are the very items which should never be forgotten. It is a wise idea always to have such food before the fowls. We might make one exception to the above and that is not to feed too much Green Cut Bone, but alternate it with other animal foods from time to time. One pound of Green Cut Bone to 20 fowls is enough at any one feed. More will cause bowel trouble. The whole secret in feeding Green Cut Bone is in small amounts often, not large feeds just once in a while.

SCRATCHING FEED—

Mixture of Wheat, Oats, Corn (Whole or Cracked), Barley, Kaffir Corn, Buckwheat, and Millet Seed.

Sunflower Seed can be added. Cut out Buckwheat in summer.

EXERCISE—Exercise is as necessary as food, and fowls cannot thrive without it. Make them work for their living. Unless the fowls have free range, it is wise to feed all grain by scattering it in a six inch litter of straw, cut alfalfa, leaves, or anything that will make them work by scratching.

Remember that their food will do them little good if they are troubled with lice. Lice will take away their vitality and their flesh faster than food can put them back. Watch out for lice, and fight them at all times with the best lice killers that you can procure. A general idea of what should be done, mixed with a little good, common sense, is the best rule known.

Conkey's Lice Preparations will soon put the parasites out of business and a little of Conkey's Roup Cure, occasionally placed in the drinking water, will tone up the birds and prevent colds and other troubles.

FEEDING THE CHICKS

Young chicks should be given no food whatever, for the first 48 hours after hatching. The very last process of incubation is the absorption of the remaining portion of the yolk of the egg. This absorption is Nature's way of feeding the chick at the start, and it should not be interfered with by giving them other food. A little fine grit, or coarse sand, should be within their reach when they are first placed in the brooder and this should be kept constantly before them. They should also have plenty of cool fresh water. This should be given them in founts made for the purpose, which will not allow the chicks to become wet and chilled.

The chicks should never be fed sloppy food, even if you have to confine yourself to the feeding of dry mixed grains. Chicks are usually fond of a mash feed and are inclined to stuff themselves with it if allowed to do so. Where this is given avoid feeding too much at a time and never give more than they will clean up, as it sours and sickens them. There can be no objection to the use of a light mash feed once a day, but it should not be given oftener unless you are forcing chicks for broilers. Chicks that are to be raised to a useful maturity should be fed principally on dry grains, such as any good "chick feed." Many successful poultry raisers keep dry wheat bran before the chicks from the time they are hatched and this largely takes the place of a mash feed.

Under natural conditions, the hen will lead her brood, scratching a little here and there, and the chicks, in turn, picking up a grain at a time, will obtain a balanced ration of all dry feed. If we follow the mother hen as to method of feeding we are not likely to make much of a mistake. Exhaustive experiment has been made along this line and different people hold different views, but the majority of opinion is greatly in favor of the dry method as a means of preserving the chicks against diseases of the digestive organs, most often termed Cholera. The dry feed should be made up of dry grains, properly proportioned, and ground or crushed to the right size. Feed the little chicks four or five times a day, but give them only such a quantity as will keep them active. The brooder floor should be covered with a light litter of cut clover, hay, or straw or scratching material. Exercise is just as necessary for chicks as it is for fowls and unless they have free range all grains given them should be scattered in the litter or raked into the earth in the run, so the chicks will be kept busy scratching for most of the day.

When the chicks are one week old, begin to give them a little green food and increase gradually as they grow older. Onion tops, clover leaves,

lettuce, cabbage chopped fine, and grass or tops from sprouted oats cut into short lengths, less than $\frac{1}{2}$ inch, are all excellent for the purpose.

The use of animal food in some form is of considerable help in the proper development of the chick. Beef-scrap, lean meat, finely ground green bone, blood meal, bone meal and milk in its various forms are used in various ways in feeding the chicks. Milk can be used liberally without harm, but the other articles mentioned must be fed with some caution. When feeding fresh bone or meat make sure that it is perfectly fresh and sweet and when beef scrap is used it should be of the best quality. Animal foods should not be given until after the first week and then only in small quantities at first. Beef scrap is one of the most popular forms of animal food in use and many poultry raisers allow their chicks free access to hoppers filled with this material. A too liberal use of the more concentrated forms of animal foods is likely to cause bowel trouble, and this must be guarded against. The right sort of feeding is the secret of raising chicks and should be attended to carefully and not wastefully. Keep the chicks just hungry enough to be willing to work for what they get. A careless feeder not only wastes the food, but will ruin the flock. Irregular care of little chicks leads to failure. One hour's chill, caused by a lowering of temperature in the brooder, may bring the setback which cannot be made up for quite a while, if ever. Continuous care is the secret of success, and systematic observation of conditions is necessary at all times. It does not do to give excellent care for ten hours, and then forget what should be done at the eleventh hour.

FEEDING FOR BROILERS

Where chicks are raised for broilers they should be fed very much the same as other chicks for the first two weeks, but after that time such a method of feeding must be used as will produce a plump carcass weighing from one and one-half to two pounds in the shortest possible time. Heavy feeding is necessary to fatten the chicks quickly and the digestive apparatus can be taxed to the limit for this process does not have to be carried on for any length of time. At the beginning of the third week a mash feed should be given once a day and the fourth week add one more feed of this material. When the chicks are a month old, three moderate feeds of mash should be given each day, finishing up the meal with a little grain scattered in the litter to induce exercise. To get the best results the chicks should be fed four of five times a day and at such times when the mash is not used a mixture of whole and cracked grains of a suitable size, as well as some green food, should be given. During the last two weeks of feeding the bulk of the food given should be mash. In feeding broilers the mash used is somewhat different from that ordinarily given to chicks, being more fattening. A mixture of five parts corn meal, four parts wheat bran and six parts ground oats (without hulls) should give good results. If oats without the hulls are not obtainable substitute middlings of about half the quantity. Oats with the hulls should never be used for small chicks. In feeding the mash moisten the ground grains just enough to make a crumbly mass, for sloppy foods must never be used. A little bone meal and ground charcoal and a very little salt will be found excellent in the mash. Animal food should be given broilers same as other chicks and green foods supplied daily. Broilers should not be given free range or the use of large yards, but they cannot be kept in healthy condition or successfully grown if they are overcrowded. If conditions are favorable the broiler should be ready for the market in eight to ten weeks.

SPROUTED OATS

Since the value of sprouted oats for use as a green food for poultry has become generally known, it has steadily grown in favor. They are greatly relished by the fowls, are inexpensive and can be fed to chicks as well as fowls. When chicks are small only the finely chopped tops or blades should be used. The process of sprouting the oats is a simple one, but there are several facts in regard to it that are well worth knowing. For sprouting purposes new, heavy oats should be used. Trays should be started at such intervals as will keep the supply constant. The amount started at one time would vary with the size of the flock, but should not be more than will be used in three to five days. If the oats are kept too wet after they are partly grown, or if not used after a certain time, they will become sour and rapidly rot. Just what quantity of sprouted oats should be used for a given number of fowls would vary some with conditions. A strip or section containing sixty square inches is a safe amount to use for one hundred hens, but more can be used if it does not cause looseness of the bowels. During the summer oats can be sprouted out of doors, but in cold weather they must be kept inside where the temperature is high enough to keep them growing, and the warmer they are kept the faster will be their growth. A warm cellar makes a very desirable place. The use of trays for sprouting the oats has been found to give the best results and they should be made only large enough to hold oats for three to five days' feeding. About four trays will then be necessary to supply the fowls with oats at such a time as they are most suitable for feeding. For one hundred fowls make four trays about fifteen by twenty inches. The sides and ends should be one inch boards six inches wide. Cover the bottom of this tray with lath previously soaked in water to prevent splitting and bulging and have them just close enough to keep oats from going through the cracks. Nail a piece of lath flat ways across either end on the bottom of the tray. This permits drainage, but does not dry out the oats too rapidly. Make a sash to cover each tray, fitting it with glass or oiled muslin. This sash is for admitting light and holding the warmth and moisture. Five pints of oats should be evenly spread over a tray of the size mentioned above and thoroughly sprinkled with warm water. Carefully cover the entire surface of the oats with two to four thicknesses of burlap and again sprinkle. This sprinkling process should then be repeated once a day, or oftener if the temperature is high. Do not disturb the oats after they are placed in the trays. They will sprout evenly if kept wet and warm and stirring will break the tender sprouts. After the sprouts are about an inch high, remove the burlap and cover tray with sash. Keep the sash on till oats are about three inches high, when it can be left off for good. Begin feeding when sprouts are about four inches high. Some judgment must be used in the treatment to suit the varying conditions. To remove from tray, cut down through sprouts and roots and peel the oats from the lath bottom. If each tray is refilled as soon as emptied there will be a constant supply of the oats, providing the proper number of trays are in use.

When we consider the food value of the sprouted oats and the fact that a feed for one hundred fowls can be produced from one pint of oats at cost of less than one cent, it can be readily seen why this form of green food is so universal, recommended.

INCUBATORS AND BROODERS

Nothing has played so important a part in raising the poultry business, from a simple pastime to a great industry, as the incubator and brooder. In the value of its output the poultry industry is second to none in the world. During the experimental years, results were far from promising or satisfactory, but today there are a large number of excellent machines in the field, which work mechanically, require practically no attention, and which bring to life a high percentage of the fertile eggs intrusted to their care.

A perfect incubator has, first, a perfect radiation of heat, controlled by an active thermostat that will regulate the slightest change of temperature in the egg chamber; second, the necessary amount of ventilation. Each manufacturer has his own way of controlling these matters and there are many reliable makes it would be safe to choose.

No poultryman can hope to succeed in building up a large business, in any way satisfactory or profitable, without an incubator and brooder of some standard make. They are absolute necessities in the present day.

Some people make the great mistake of buying a good incubator, expecting to make a brooder of their own, or to provide some scheme to get along without one. We advise most strongly against this error! It is a comparatively easy matter to hatch chicks, but to raise them is the problem and one great help in this is a high grade brooder.

The brooder is made in two patterns—the indoor and outdoor. Those arranged for indoor use are, as a rule, the more successful though the outdoor brooders answer admirably.

Absolute cleanliness in brooders is a positive necessity, as right there is laid the foundation of the future health of the chick. Filthiness and disease generally go together.

A brooder should be roomy and well supplied with heat, always from overhead. Provision should be made so that chicks do not crowd, as they are very apt to do if the temperature is not right. If too cold they will at once huddle together and many may be smothered. One of the greatest mistakes made by poultrymen is trying to keep too many together. As they grow older they should be separated—fifty chicks in any compartment being enough—and as they mature, even a smaller number is better.

FIRELESS BROODERS—All the heat that is needed in a poultry house can be obtained from the fowls' bodies if the house is correctly designed and built. The same principle is now used in the fireless brooder for little chicks, which is a well-ventilated, padded box that holds and evenly distributes the heat from the bodies of many chicks together.

It is a very important item that the heat be so distributed that the same temperature is kept up in the various parts of the brooder and that the ventilation is well distributed. Fresh air and equal heat are the serious problems.

In mild weather fireless brooders can be used out of doors, but equable temperature is a necessity for, should chicks run from an inner temperature of 80 or 90 degrees to an outside air at freezing point, you could look for colds, roup, bowel troubles, and death. The logical place for the fireless brooder is in a room or brooder house where the temperature outside the brooder can be maintained steadily at a point above freezing. Some claim that much greater extremes are all right, but we would accept such statements with caution.

HOME-MADE FIRELESS BROODER—A home-made, fireless brooder may be constructed as follows and it will answer all practical purposes: Take $\frac{1}{2}$ inch or 1 inch lumber and make a box 11 inches high and 20 inches square. Rip the box 5 inches from the top and six inches from the bottom, and hinge on one side so that they will close as they were before being ripped. In each end of the top bore three 1 inch holes and, from the two center holes (one on each end) have tin tubes running from holes to points four inches from center. Leave other holes as they are. These holes are for ventilation and the tubes from two of the holes will convey the air to and from center of brooder, while the other four will ventilate the outer edges. Make a frame to fit into bottom part and set on cleats so as to come flush with point where bottom and top of box join. Tack porous cloth to this frame, either canvas or muslin, and let it sag in the center to within 2 inches of bottom of box. On top of this canvas or muslin put pads of cotton batting, say a layer about 2 inches thick. Have this layer of padding such that you can gradually lessen it as the chicks grow. Remove it entirely at 3 to 4 weeks if weather is mild. Later you can remove the cloth entirely. The bottom part of this box line with felt on sides and always have a warm litter of finely cut straw or clover in the bottom. Leave an opening in front of the box $3\frac{1}{2}$ inches square for chicks to go out and in. If nights are very cold it may be well to partly bank up opening with litter so as to keep out some of the cold, though the opening should not be closed entirely as it also provides ventilation. This brooder will be found all right. As many as fifty chicks may be kept in the brooder for one week, twenty-five for three weeks, and twenty until they weigh $1\frac{1}{2}$ pounds each. There are also many styles of fireless brooders on the market that may be bought reasonably and save the trouble of making.

MATING—No Matter how well situated your poultry farm may be, or how good its buildings, or how excellent your incubators and brooders, success cannot be obtained unless you can secure strong and fertile eggs. The first consideration must be the health of your stock. The male birds must be kept in vigorous health and the number of females with which they are permitted to run must be limited. With the American and English breeds, one male to each ten females, with the Mediterranean, one male to each fifteen females, and with the Asiatic, one male to six or eight females, are about the right proportions.

SELECTION OF EGGS—Care should be exercised in selecting eggs for hatching. There is a great difference in eggs and, although it is not generally known, it is possible to arrive at some idea of their hatching qualities before they are placed in the incubator. An egg which will produce

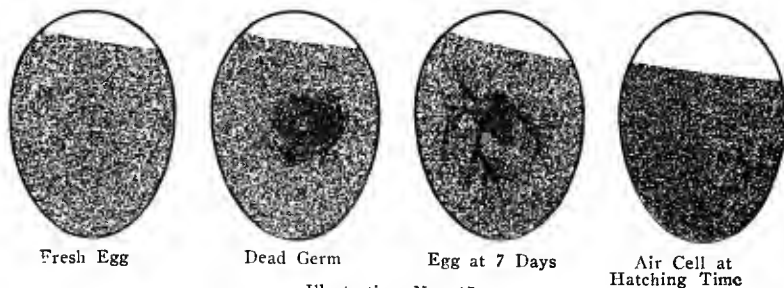


Illustration No. 17.

a fine, strong chicken will have a shell of even texture. If, by holding it between your eyes and a good, strong light, the shell appears to be porous or patchy, or if you detect a ridge or thickness encircling the egg, usually at the center, discard it. Again, the air cell in a fresh egg is always small. As the egg becomes older this air cell increases in size. A few practical tests will teach you the difference, so that you can surely and quickly make the proper selection.

INCUBATION—Keep the temperature in your incubator at 103 degrees and, after the selected eggs have been kept therein for seven days, they should be tested by holding them in front of a strong light, concentrating the light so that it will pass through the shell. All eggs which appear perfectly clear are unfertile and should be discarded. These discarded eggs can be saved as they form an excellent food for the young chicks when hard boiled. A fertile egg at seven days in the incubator will show a dark spot from which, as a center, blood vessels will radiate in different directions. If, however, you discover an egg containing a dark spot, around which is a dark circle discard it also, as this is a dead germ, killed by the bursting of a blood vessel as a result of overheat. The air cell increases in size as the chick matures until, on the eighteenth day, it should occupy nearly one-third of the egg space.

Eggs should be tested on the seventh and twelfth days and all containing dead germs should be removed.

If conditions are right, chicks should break the shell on the nineteenth day and the entire hatch should be over by the twenty-first day. After the chicks begin to hatch, the machine should be kept closed until the chicks are ready to remove to the brooder.

After they are well out of the shell, chicks should remain in the incubator until thoroughly dry and they become sufficiently strong to be removed to the brooder. This usually occupies about 48 hours.

LITTLE CHICKS—To hatch the chick is important; but to raise it is the problem. There are two great enemies—disease and parasites. We have referred to the various digestive troubles which come from wrong feeding and which are generally grouped under the name cholera. These can all be successfully treated by CONKEY'S CHOLERA REMEDY in the drinking water as elsewhere fully described. There is another even more serious trouble called White Diarrhoea. It shows as a white pasty discharge and may come on any time between the third and the twenty-first day of the hatch. The gummy substance hardens and closes the vent. The disease is very contagious and the little chicks die by thousands each season—in fact White Diarrhoea carries off each year from 60 to 75 per cent of all chicks hatched. This disease has long baffled poultrymen. We have only recently found a remedy for it, CONKEY'S WHITE DIARRHEA REMEDY, which you simply put in the drinking water and let the little chicks cure themselves. Even those badly pasted up behind can be cured, but first you must remove the hard accumulation. A drop or two of oil will soften it and make the operation easy. Sometimes warm water is used, but in this case special care must be taken not to get the chick wet.

White Diarrhea is best treated by preventive measures as explained under diseases. Conkey's White Diarrhoea remedy can be relied on. It is always easier, and cheaper, to prevent than to cure.

Parasites are another great cause for the heavy loss of little chicks. Of these lice are the worst, and there are three distinct kinds of lice—head lice, body lice and mites. The head louse is the worst of all, for two or three of these big fellows will fasten on head or neck or under the wings of the little chick and sap its life. Fortunately treatment is easy, if the poultryman will

simply apply CONKEY'S HEAD LICE OINTMENT as directed. The body louse is a different proposition and must be treated with a powder. CONKEY'S LICE POWDER is guaranteed effective, and at the same time positively will not injure the health of the chick. For mites it is necessary to use a liquid, spraying it in cracks and on roosts, walls, etc., as explained page 56 on this subject. Because of the different life habits of these three distinct kinds of pests, no one preparation can possibly answer for all three. Poultrymen are sometimes misled by advertisements on this subject.

Before we leave the subject of the little chick we wish to urge again every precaution to prevent disease. It is always cheaper and easier to prevent than to cure. Besides this, once let a growing bird get in bad shape the chances are it will be stunted by the setback, even though you cure the particular disease.

TURKEYS

And now we "talk turkey!"

The common varieties of turkeys in this country are the Bronze, Narraganset, Buff, Slate, White, Holland, Black and Bourbon Red.

By far the most popular seems to be the Bronze, which is a cross of the Black (the English Norfolk turkey) with the original wild bird of this country. The Bronze turkey is now the largest and hardiest of all the varieties. Next to it in size, probably next to it in popularity also, is the Narraganset—also a cross with the American wild turkey, but with some Mexican wild turkey blood added, giving the mixture of white in the bronze and black plumage.

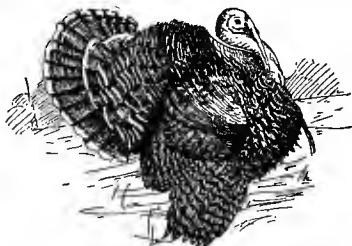


Illustration No. 18. Bronze Turkey.

Turkey raising is a profitable industry. It is something of a specialty and requires a little different system from that of raising

ordinary domestic fowls, but the important differences are few and easily mastered. But the great thing is to actually do what's right. Knowing and doing are very different matters.

Turkeys adapt themselves easily to various climates and can be raised successfully whether you live far south in Texas or north in Canada, and thrive equally well under conditions so unlike as those found in New England and in California. Fact is you can raise them any-where if you (1) start with the right stock and (2) give the right care.

The right stock is any stock that is itself individually strong and healthy. It must then be kept so. Turkey stock quickly shows bad effects from in-breeding. The only way to keep up the constitutional vigor of the birds is to introduce new toms, selecting always vigorous medium sized males and mating each with about five mature hen birds, making sure always that the hens are also strong and vigorous. Some successful breeders consider eight to twelve hens a good proportion to each tom. Pullets do not lay eggs so large as those laid by yearling and two year old hens, and their poult are not so strong.

The right care means chiefly protecting the young poults from cold or damp, especially from wet grass and from insect vermin. Timbered land where there is not much underbrush is the finest for raising young poults, or pasture land where the grass is short and there are plenty of insects to be picked up. A flock of turkeys would benefit any farm by the amount of worms, grasshoppers, etc., thus destroyed. Right care includes also giving turkeys good, free range. These birds are still half wild and they will not thrive under the conditions that are ordinarily successful with domestic fowls. They grow very nervous and restless when too closely confined. If you are in the business for profit the right way is to give the turkeys plenty of good range, where they can get abundant natural food by foraging for themselves. But at the same time you must give them a nice grain feed every night as this will guarantee their return home to roost. Corn is the best grain, but you should add occasionally some wheat, oats or peas, as corn alone is too fattening. Since the turkeys will roost in the open air, however, they can stand this rich grain, as it keeps them warm while in the open. The rule is to feed a little at a time, but to feed often. A grain and insect diet suits them to a T. The young poults will begin to feed themselves just as soon as they are out of the shell. In the natural state they live almost entirely on the insects and berries they pick up.

Pretty nearly the whole problem in turkey raising is to start right with the poults. For while the grown birds are extremely hardy, the poults are the tenderest of all poultry to care for. Watch them carefully up to the time when they get their first plumage and "throw the red," that is show their combs. After that they are easy to manage with the two main cautions already stated.

The young poult should be fed the first two weeks a crumbly mixture of bread and milk and pot cheese, or curd—about one-fourth should be the cheese. Add to this a little chopped onion. Two or three times a day give the little poults all of this they will eat up clean and at least once a day give them some finely cracked corn, mixed with wheat and oatmeal, equal parts by weight. After the second week, increase this grain ration, and also give more of the pot cheese, cutting down the bread and milk in the ration: Pot cheese is considered better than beef scrap for turkeys, although, of course, beef scrap is a valuable article for them. Of course, as they grow older you gradually give coarser grain and finally the whole grain.

Grit and charcoal should be before them all the time—this is always necessary with any kind of poultry.

Water must be where they can help themselves, but it should be in a fount such as will protect the young poults from getting wet. Turkeys should always have a good supply of water.

TO FATTEN FOR MARKET—Give the turkeys free range, if possible, else they will "worry." At night, give them all the whole corn they will eat. In the morning, give them a mixture as follows: six parts cornmeal, three parts middlings, one part meat scrap, mixed with sour skim milk. Do not let this get too soft and sticky, but make a good stiff mixture. The last week of the fattening for market put the birds in darkened coops and feed the following "cramming" ration, which you can make up into pellets and feed by hand; two parts cornmeal, two parts ground oats (without hulls), one part middlings, one part scraps, mix to a stiff dough with sour skim milk as before.

RATION FOR BREEDING SEASON—Equal parts by weight of ground oats, cornmeal, wheat bran, wheat middlings, meat scrap, mixed with sour skim milk. Oats is the best all around grain at breeding time.

During breeding season turkeys should always be given free range all day and allowed to roost at home in the open. They like high roosts and fresh air. Let them have their way and you will see their big bodies looming up on a ridge pole or some high tree branch.

Turkey hens lay from thirty-five to forty eggs during the season. Time for incubation is twenty-eight days. Some poultrymen use hens for hatching, but there is great danger from lice unless extra care is taken. However, by giving the first clutch to sitting hens you can keep the turkeys laying. Dusting the nest and hen with **CONKEY'S LICE POWDER** at frequent intervals will settle that problem. Remember that lice will kill a poult in very short time.

Young poults thrive best on woodland range, where they will not get tangled in wet grass and can pick up most of their living. But if confined, try to change their runs from day to day. Disinfect thoroughly using **NOX-I-CIDE** to sweeten the ground and to thoroughly clean all utensils.

DUCKS

This is another branch of the poultry industry which has not been fully appreciated. Duck raising is certainly profitable. Ducks are easier to manage than chickens, have fewer diseases and mature more quickly. But it takes good sense and proper attention to necessary details to make a success of the business.

Ducks are raised chiefly for meat, but their eggs are a valuable food product and with proper management and feeding there is not that strong flavor which has hitherto been an objection. Duck eggs are large and they always command from five cents to ten cents more per dozen in the market. For cooking they go about one-third farther. Ducks commence laying when about five months old.

The American Standard of Perfection recognizes twelve varieties: the Aylesbury, which is the market

duck of England, a slaty-white bird, good laying and rapid growing; the Rouen, brilliantly colored, marked sometimes like the original Mallard; the Pekin, which is the favorite market duck of America, the largest white duck in the world, of early maturing and good laying qualities; the Cayuga, strictly an American breed, originating around Lake Cayuga, N. Y., (black in color); Crested White; Indian Runner, called the "Leghorn of the Duck family" because of its heavy laying, smaller than the Pekin, very early maturing and growing more and more popular in this country; the Blue Swedish; the White Muscovy; the Colored Muscovy, the eccentric duck that never quacks, and also having other little peculiarities, insisting on building a nest and taking an extra week to hatch; the Gray Call, used principally as

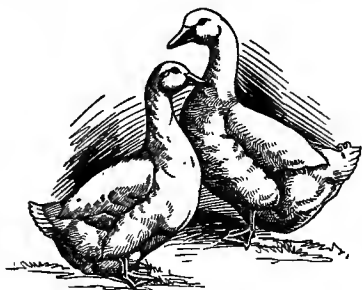


Illustration No. 19. Pekin Ducks.

decoys; the White Call; the Black East Indian—the last three being known as the “bantams of the Duck family.”

We should here give brief attention to at least two varieties—the Pekin and the Indian Runner, which are now the favorites.

The Pekin duck was first brought here from China in 1873. Pekins are a large, early maturing, pure white breed. They are much liked for “green duck” farming, as they easily weigh over five pounds in ten weeks. They have proved themselves satisfactory in every way and it is safe to say that more Pekins are grown for market than all other breeds combined. They reach ten to twelve pounds at maturity and are excellent layers. Large plants in the East market many thousands annually. With Pekins there is an additional profit to consider in the feathers, which are pure white and command nearly double price, especially as they are elastic and largely mixed with down.

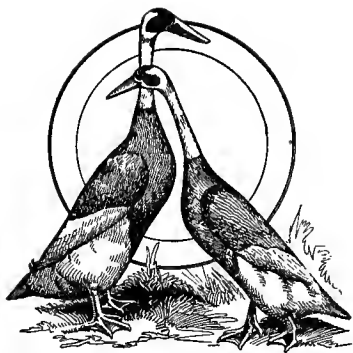


Illustration No. 20. Indian Runner Ducks.

The Indian Runner meets the demand for a small carcass and good layers, especially winter laying, when most ducks shirk. Indian Runner flocks have high egg averages, as much as 180 to 190 eggs per duck. No wonder they are often compared to Leghorns as layers. The eggs of the Indian Runner are about the same size as those of the larger breeds. Ducks are hardy, but the Indian Runner is perhaps the hardiest of all. They do well under any ordinary conditions and if given free range will rustle a good share of their living. They feather early and mature sooner than the large varieties. They weigh about five and one-half pounds for drakes, and ducks one pound lighter. There are three distinct varieties, the Fawn-and-White, Brown-and-White and White. The first named is the most beautiful, also the most popular, and with their erect perpendicular carriage fairly represent the breed. They have long, flat heads, light fawn in color, with straight green bill; white neck, back fawn or gray, fawn color breast, shanks and feet orange yellow. They are mighty good to look at and just as good to eat.

DUCK RAISING—Start always with good breeds and fine, vigorous specimens of your chosen breed. The breeding stock should be selected from the early hatches, as ducks will lay about two months before the drakes are fit to use for breeding. At the beginning of the breeding season mate the drake with from five to eight ducks. Later in the season you can increase this number to ten or twelve. During the breeding season water is an advantage, but is not really necessary. In raising ducks for market it is an advantage to keep away from pools, etc., as the ducks will fatten more quickly. Young ducks can be fitted for market as “green ducks” in nine to eleven weeks, weighing easily five to six pounds. You will read many glowing accounts of ducks weighing up to nine pounds, but we make the general estimate lower.

You can easily tell the sex of the young by noting the long bill, neck and body of the drake, and the more upright carriage of the body. At two months you can easily tell the duck by the coarse quack, whereas the drake has a fine rasping note. As the drakes mature you will note the curled tail feathers, which are easily distinguishable.

HOUSING—Ducks can be housed more cheaply than chickens. The only thing is to keep them dry as possible. Cold and snow they don't mind until they "get cold feet." Cold feet stop egg production instantly. The other important thing about housing is to have a rat proof floor. Keep the litter on the floor reasonably clean, as they will "roost" on the floor.

Water should be where they can get at it day or night for drinking. They need plenty of water inside, but for practical management the less they have to dabble and play in the better, as it uses up their fattening energies and makes extra work in tending, as they will be sure to slop water over the floor and get it unfit for their own use.

FEEDING—The Duck has no crop, hence cannot stand much hard grain, but should be given mash feed. Ducks are heavy eaters, can be crowded for market, but of course there is a limit. Feed all they will eat up clean. Never leave stale food around to become filthy and fermented and thus a source of disease. In a state of nature they would naturally feed on watergrass and roots and low forms of animal life. Always give them some green food unless they are on range. Feed about as follows:

As with chickens, do not attempt to feed the new hatch before 36 or even 48 hours, but let the little birds fully absorb the yolk. Then give two-thirds part wheat bran to one-third part cornmeal, moistening to a crumbly mass with a little water or milk. Mix in one raw egg with each quart, and also mix in a little sand or fine grit. Keep this before them for 48 hours, watching to see that it does not get stale, that is, renewing as necessary. Give them clean water to drink in a fountain such that they can wet their bills and heads but can't get their bodies in the drinking water.

At one week: Give three parts wheat bran, two parts cornmeal, with about five percent of beef scrap. Keep changing above so as to have equal parts wheat bran and cornmeal at six weeks, with about fifteen per cent beef scrap. With this feeding the ducks will be ready for market at ten weeks. Watch the beef scrap and reduce the amount if the bowels seem affected. They certainly like green feed, but much will tend to make the skin yellow, and the market demands white. Wheat is fine for giving this white skin, and beside it makes good strong bones.

The feeding trough should be plenty long so all can feed at once. Feed just as much as they will eat up clean in 15 or 20 minutes is a good practical rule to follow. Let us repeat again, never leave food around in trough or yard to become foul and cause disease.

Breeding stock are best given free range during the day, starting them out after a scant breakfast so that they will be sure to exercise well in foraging. For this morning feed give largely bran with a little cornmeal. Feed about the same at evening. A good formula is as follows: Three parts wheat bran, one part low grade flour, one part cornmeal. Add about five per cent beef scrap, three per cent grit. Provide them with finely shredded corn fodder, or clover or oat fodder.

Laying stock will make good returns on the following ration: Equal parts cornmeal, wheat bran and low grade flour. To this add one-fourth the bulk of cooked vegetables such as potatoes, turnips, etc. Mix in beef scrap, about twelve per cent. Mix with a little cold water to a crumbly feed. Another laying ration is as follows: Three parts cornmeal, two parts wheat bran, one part red dog or other low grade flour, one part cut alfalfa clover or cut vegetables, one part beef scrap. Mix to a crumbly mass with milk or cold water. Either of these can be used twice a day with a lunch feed of a little corn, wheat and oats at noon. Of course, keep grit and ground oyster shell before them all the time. Also plenty of water, as ducks wash down their food with water.

Usually the flocks are brought in from range the last of November or

early in December, then put on laying ration and commence egg production in about three weeks after housing. As would be expected, the first eggs are more liable to be infertile. For hatching, the eggs should not be trusted to the ducks, as they are inclined to be unreliable. Where most convenient hens can be used for hatching and brooding, but on a large scale the best way of course is to use incubators and brooders. Eggs will require 28 days for hatching.

GEESE

There are many places on the average farm that are not suitable for cultivation or for the raising of chickens, that could be profitably utilized for a goose pasture. Low, swampy places can be used provided there is also some high ground.

Goose culture requires less capital than any other branch of the poultry business, as very little housing is necessary and they are turned onto the land very much like cattle. A rough shelter free from extreme drafts should be provided and a deep litter kept on the ground inside. The quarters should be kept reasonably clean, for although they will stand more filth and neglect than chickens it is not the proper way to care for them and good results cannot be obtained without considering the health of the flock.

Mating usually takes place some time in February and after the fowls have been penned together for a week or ten days it is not necessary to keep the various pens separate. Once the family ties are firmly established they will be lived up to during the entire season. Two or three females are all that should be mated to a male.

Geese are long-lived and ten-year-old birds are quite common. Females of three years or over are the best for breeding purposes and their usefulness continues throughout their entire life. Young ganders are more desirable for breeders because of their activity. Old ganders also get quarrelsome with age.

There is a difference of opinion as to which is the best breed of geese. but the Toulouse, Embden and African are the most popular for general purposes.

A goose will lay from twelve to twenty eggs before becoming broody, but twelve is about the right number for a setting for the best results. Twenty-eight days are necessary for incubation.

If goslings are well hatched little difficulty will be experienced in raising them. They can be given about the same feed as little chicks, with the exception that green food such as fine cut grass or vegetable matter should be given several times a day after the first day.

The old goose should be kept in a coop and the goslings allowed to run about. After a month they can be let out to range and very little attention will be necessary. They are very light eaters and if the pasture is good only a little other food will be needed. A good mash feed for them is made by mixing two parts of bran with one of cornmeal. A variety of vegetables such as beets, potatoes, turnips, cabbage, etc., should be given them.

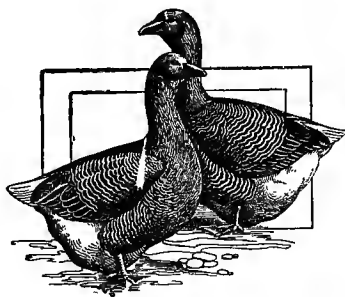


Illustration No. 21

Toulouse Geese

Because of their rapid growth and the small quantity of grain they consume geese will be found one of the most profitable kind of stock that can be kept on the farm.

POULTRY DISEASES

The diseases of poultry are much the same as those of the human family. Not only that, but the causes are about the same. They can be traced to unsanitary conditions, improper feeding, impure drinking water, or exposure.

The continuous feeding of strong carbonaceous foods, or feeding too much of one kind of food, or a lack of animal food, or green foods in the winter, and then in the spring eating too heavily of grass, etc., all contribute to poultry disease. Impure water is also a frequent factor. To the above causes may often be traced Indigestion, Crop-bound and Cholera. If fowls are forced to roost in crowded quarters, they are chilled when they go out in the morning and colds ensue which, in turn, cause Roup, the scourge of the poultry yard. Another source of disease is lice—the greatest of all causes of trouble. They soon deplete the vitality of the fowls, making them susceptible to colds and other forms of disease. This is particularly noticeable at moulting time.

It would be folly for us to go on and tell you how to cure disease before stating that very much can be done in the way of prevention. It is so much easier to prevent than it is to cure that we call your attention to our article on NOX-I-CIDE, the foe of germ life, on page 71 of this book.

Diseases of the Respiratory Organs

ROUP

Nearly every poultryman has had experience with this most dreaded disease. The ravages of Roup often amount to an epidemic. In such cases it is often termed "Cholera" for, among the larger number of poultry raisers, any dangerous disease is called "Cholera" when, in truth, there is but one similarity between the two diseases which is that either is pretty sure to terminate fatally if left to itself. While Roup may occur at any season of the year, it is most common during the late fall months, early winter, and the frosty days of spring.

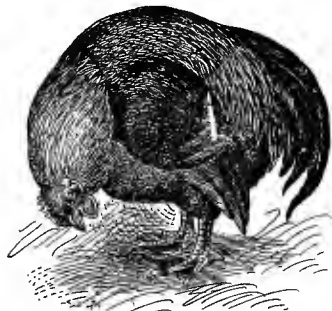


Illustration No. 20.
Fowl with Roup.

CAUSE—Roup generally gets its start with a cold which may be contracted in various ways, such as exposure to cold rains or disagreeable weather; by drafts of air blowing directly on the roosts; through improperly constructed or poorly maintained houses; or the evils of overcrowding. Where fowls or young chicks are allowed to overcrowd at night they become heated and then, when they go out in the chill of the morning, they catch a cold which soon develops into Roup. This disease is also hastened by accumulations of filth in and about the poultry houses, as this condition promotes all classes of disease. Lack of proper ventilation is another great cause of Roup. The fowl

air cannot escape and the moisture from the breathing of the birds condenses on walls, etc., then freezes or "frosts" as already described.

According to scientific authorities, there are varied groups of diseases commonly known as Roup. It is very likely that Roup cannot originate from a cold without its specific germ being present. But for all practical purposes, and for all logical prevention, treatment and cure, they can be considered identical until such time as their development advances to a point where they may readily be identified by the ordinary poultryman.

Many people who have houses constructed on the most approved plans, and whose fowls are given the best possible attention, have trouble with Roup among their fowls and are unable to trace the cause.

Roup is one of the most infectious diseases and can be communicated in various ways. One of the most common is by new stock from infected yards, or by the use of some infected coop or utensil. It is frequently contracted in the show-room from other birds, or from infection clinging to appliances of various sorts.

When the infected matter from the diseased fowl dries, the germs may be carried and scattered by the wind and thus spread the disease. Poultrymen do not always think of this and are unable to understand its occurrence in their flock, or its transmission from one portion of the flock to another. Many times fowls will have the Roup without any indication of a preliminary cold. This is explained by the fact that Roup is a germ disease; these germs live on and within the mucous membrane of the throat and head passages; the infected fowls are continually throwing off these germs and, as they dry, they are carried in the air and may lodge in the nostrils when the fowl breathes, or they may lodge in the eye and multiply from that point, which explains the frequent watering of the eye and the absence of every other well-known symptom so common to this disease.

SYMPTOMS—Unless contracted from the dry germs in the air, as mentioned above, the first symptom of this disease is that of a slight cold, the bird sneezing, gasping, or wheezing, and repeatedly rubbing its head on its plumage. The fowl loses appetite and shows a disposition to keep away from its fellows. You will likely notice it moping in some dark corner with ruffled feathers. There appears a watery discharge from the nostrils and the corners of the eyes, and soon the nostrils become closed. Development is more or less rapid, the upper parts of the mouth and throat fill with a hard cheesy matter of very offensive odor, the eyes are swollen shut, comb turns black, there is a high fever, the bird becomes emaciated and listless and, in many instances, unconscious. Altogether the roup bird presents a most miserable appearance, and it is not long before it dies.

TREATMENT—The first thing to do is to separate the sick from the healthy fowls. The logical plan is to remove the healthy fowls as the old quarters have been contaminated to a greater or less extent. Inasmuch as this is usually impracticable, remove the sick birds to clean, dry quarters. The old quarters should then be thoroughly disinfected with a solution of CONKEY'S NOX-I-CIDE according to directions. Then, in all the drinking water, place CONKEY'S ROUP REMEDY for a week, excluding all other water. This should at once check the progress of the disease among the balance of the flock.

Roup is characterized by considerable fever which induces thirst and causes the bird to seek relief in excessive drinking. With CONKEY'S ROUP REMEDY in the drinking water as directed, the fowl takes its own medicine without any effort on your part. A measureful in the drinking

water and the towels cure themselves. The measure referred to comes in the package and holds about as much as a lady's thimble.

If, before you can secure and give the remedy, the disease becomes so advanced that the fowls cannot see to drink, or the head passages so choked that the bird swallows with difficulty, you can use a warm solution of the remedy. Thrust the fowl's head beneath the surface for a moment and its struggles to breathe will carry the fluid directly to the seat of the disease and effect a cure. Full directions in plain and simple language come with each package and describe the different ways of using the remedy.

CONKEY'S ROUP REMEDY is a scientifically prepared medicine. Coming in contact with the membranes of the throat and mouth, the seat of the disease, it kills the germs which are so rapidly multiplying. It is quickly taken up by the system and, being a strong tonic and blood purifier, it cleanses the blood, builds up the system, and assists nature in every possible manner to throw off the disease.



Illustration
No. 21.

OUR GUARANTEE—So positive are we of the wonderful curative powers of this remedy that we sell it to you with the understanding that if it should fail to please you **YOUR MONEY WILL BE REFUNDED**. This will be done cheerfully! Any poultryman can tell you of our standing and ability to do just what we say.

WORTHLESS IMITATIONS—Every successful firm will have its "trailers" and we are no exception to this rule. There have sprung up, here and there, a number of imitators of our great remedy. Not only have these people and firms tried to imitate the contents of our package, but have put their goods up in the same kind of boxes and have imitated our label until we have been compelled to change our label to the style of our illustration No. 21 on this page. They are not affecting our business to any extent, the name of **CONKEY** is too well established. We mention this for the purpose of protecting the beginner or the one who has not heretofore used our goods. Many of these preparations are positively injurious. When you order insist on **CONKEY'S**. If your dealer cannot supply you, send the order direct to us and you will receive the goods by return mail. (See **CONKEY'S ROUP REMEDY**, page 65.)

PREVENTION—Much can be done in the way of prevention. The frequent spraying of **CONKEY'S NOX-I-CIDE** in and around the houses, etc., and the washing of utensils with a solution of the **NOX-I-CIDE** will be found very beneficial. It will prevent other diseases as well. If at least once a week **CONKEY'S ROUP REMEDY** is placed in the drinking water according to the directions for prevention, it will be found valuable for warding off Roup in all its forms.

PRECAUTION—**ROUP COMES SUDDENLY AND UNEXPECTEDLY AND DOES ITS DAMAGE QUICKLY**. Do not wait until your flock is down, and then have to wait again until you can send and procure the remedy, but order **CONKEY'S ROUP REMEDY** now and have it right at hand. It is an **EXCELLENT INSURANCE** against the ravages of the worst disease known to poultrymen. If at the first appearance of this disease the remedy can be given at once your fowls will be restored to health in short time and without spreading it to the others. There need be no cause for alarm if you are provided for the emergency. It is only when the disease becomes deep-seated, and your yards have become thoroughly infected, that there is great danger.

COLD AND ROUP IN TURKEYS AND CANKER IN PIGEONS

The most effective treatment of these ailments will be found in **CONKEY'S ROUP REMEDY**. No one who raises Turkeys or Pigeons can afford to be without it. See page 36 on Canker.

CATARRH

This is an aggravated form of cold—an inflammation of the mucous membrane. Some make quite a distinction, technically, between Catarrh and Roup, but we class them under the same heading. Certainly the method of treatment applies equally well to either. **CONKEY'S ROUP REMEDY** will do the work and do it quickly.

DIPHTHERIA OR DIPHTHERITIC ROUP

There is a great difference of opinion as to whether this disease is a result of Roup or of a specific germ of its own. We might enter into a lengthy discussion of this matter and give you the results of our most careful study and observation, but it would represent nothing of practical value to the poultryman, and this book is written for practical purposes only.

SYMPTOMS—This form of disease is marked by acute inflammation of the mucous membrane, not only of the head passages, but of the bronchial tubes, and even of the intestines and other organs. A yellowish gray discharge is present, and this forms a coating so thick and of such strength, as to almost represent a new membrane. The word Diphtheria means soft leather, and it is an excellent description of the false membrane appearing in this disease. When this matter is removed or torn away, a raw surface is left. While the germ is not the same, this disease resembles human diphtheria, and, it is said, there have been instances of the contraction of a light form of diphtheria by children from fowls so suffering, and that fowls have been also known to have contracted human diphtheria. It will, therefore, be understood to be exceedingly contagious and dangerous. It not only attacks chickens, but Turkeys, Pigeons, Ducks, and many other fowls. Its early symptoms are the same as Catarrh and Roup.

TREATMENT—In very many cases of this nature, **CONKEY'S ROUP REMEDY** has been found most excellent. It is a very dangerous disease and its prevention should be sought by the liberal use of **CONKEY'S NOX-I-CIDE**. It may be used in the same manner as described for prevention of Roup.

PIP

Pip is a hardening of the mucous membrane of the mouth, particularly of the tip of the tongue. It is caused by constant forced breathing through the mouth through the presence of Roup, Cold, etc., which have closed the nasal passages. The only possible cure is by removing the cause—that is by treating as described for Roup or whatever disease causes it. **DO NOT REMOVE THE HARDENED TIP ON END OF TONGUE**—it is a part of the tongue. Apply daily to the hardened tip a little of **CONKEY'S HEALING SALVE** and give the **ROUP REMEDY** according to directions.

CANKER

This is a disease which is more likely to attack game birds than others though it is found among all of them. Strange to say it usually fastens on strong, vigorous birds, and is frequently contracted during shipment of show birds. It is at times a veritable epidemic among pigeons.

CAUSE—Over feeding or too constant feeding of corn overheats the blood and often causes canker. See Aspergillosis often taken for canker.

SYMPTOMS—Difficulty in swallowing, with attempts to swallow as though there were some grain or other substance lodged in the throat. The neck sometimes has the appearance of being stiff. White spots appear on the membrane of the mouth, etc.

TREATMENT—When given according to directions, CONKEY'S ROUP REMEDY is the most valuable remedy known for this disease.

TUBERCULOSIS

Fortunately for the poultryman, this disease is not very common. Its symptoms are so much the same as those of Consumption, and the treatment is so nearly identical that we will treat them as one in this article.

SYMPTOMS—Lack of life, emaciation with indications of indigestion, but there is in Tuberculosis a decided rise in temperature and, during the last stages, violent diarrhoea. It is not possible to outline the symptoms so surely that you can absolutely rely upon them in diagnosing the disease. It is a germ disease, and a bacteriologist only could give a definite opinion after examination, but this is not possible or practical for many poultrymen. A post mortem examination will usually reveal tubercles and nodules throughout the liver and covering many of the internal membranes. When, however, you find any of the fowls "going light," as it is called, that is showing rapid and extreme emaciation, with the above symptoms, take no chances, but kill them at once.

(As the majority of cases of Going Light result from Tuberculosis; we have used the term in this connection, but there are also cases of Going Light from other causes. Sometimes fowls with voracious appetites will go light through a specific germ for which no remedy is known and others will go light from indigestion which is not difficult of treatment, and such cases without evidence of other symptoms, can be treated as for Indigestion.)

CAUSE—As stated before, Tuberculosis is a germ disease and is highly contagious. It is usually communicated through contact with birds which have it. Some maintain that it can be contracted from human beings, or from cattle that are suffering from Tuberculosis, but this has never been proven. In any event it is best to provide against such a possibility. There is no question but that strong, vigorous stock are seldom troubled with it, and that maintaining a high standard of health is the best known safeguard.

TREATMENT—Kill all which show any symptoms and burn and bury the ashes. Remove the balance of the flock to new quarters and, with a sprayer or sprinkling can, disinfect everything that the fowls have come in contact with, using a solution of CONKEY'S NOX-I-CIDE, two parts NOX-I-CIDE to one hundred of water. Go over houses, runs, roosts, utensils, EVERYTHING, once a day, for a while. Fowls can then go back to old quarters. CONKEY'S POULTRY TONIC should be given in their daily mash. If this were given occasionally as a tonic, there would be but little cause for alarm over this trouble.

INFLUENZA

Influenza, "Epizootic," or Grippe is a contagious, catarrhal disease distinct from Roup, although it often appears with Roup. Its common form is like a Roupy cold and has the Roupy smell, with or without Diarrhoea. It may well be classed as Roup for all practical purposes, as the cause, symptoms, and treatment are the same.

SWELLED HEAD

While Swelled Head is generally an aftermath of Roup and its kindred diseases, fowls may be found with hot and swollen heads without having had any severe case of Roup or Cold.

SYMPTOMS—Swelling of head with more or less closing of eyes, etc.

TREATMENT—Same as for Roup. Sometimes it may be necessary to lance in order to remove the pus, while hot applications of one measureful of Roup Remedy to one quart of water will help to absorb the pus.

In any case of Roup and the diseases that may be classed with it, there is a liability of the fowl dying from starvation when the disease advances to a point where it is difficult for the bird to swallow. A good, strong beef broth will often tempt an affected fowl, but, if not, make it take several teaspoonfuls three times a day, and it will be found so strengthening that it will often save a valuable bird when other food entirely fails.

BRONCHITIS

Bronchitis is caused by a cold, by sudden changes in temperature, by damp quarters, etc., and is often mistaken for Roup. It is also frequently caused by particles of dust, lime, or other foreign substance, breathed into the bronchial tubes for, unlike Roup, Bronchitis is an inflammation of the membranes of the bronchial tubes, instead of the nostril and head passages. Filthy quarters and the breathing of foul air are also causes of this trouble.

SYMPTOMS—Loss of appetite, and quick breathing and coughing. A peculiar whistling sound may accompany the breathing, which changes to a decided rattling in later stages. Bronchitis should not be confounded with Roup, which is indicated by running at the eyes, nose, etc. The two diseases require entirely distinct remedies and treatment.

TREATMENT—Give CONKEY'S BRONCHITIS REMEDY according to directions and as early as possible.

CONGESTION OF THE LUNGS

This is caused by the sudden chilling of the surface of the fowls' bodies and is due to exposure of various kinds. It is more frequently found in moulting fowls when their strength is not up to standard and their bodies are not in condition to protect them from the cold.

SYMPTOMS—Stupor and lack of life, accompanied by difficult and rapid breathing. The comb may turn black or blue, and blood-tinged mucus may be discharged from the mouth. The disease appears without much warning and may quickly cause death.

TREATMENT—Owing to the fact that this disease is so quickly fatal, there is nothing that can be done to cure it. The prevention should be given all your thought. See that all fowls, and especially moulting fowls

are given dry, warm quarters and provided with plenty of food, properly proportioned. Moulting fowls should have all the animal food that they will eat. CONKEY'S POULTRY TONIC in the mash will be found of great value as a preventive.

PNEUMONIA

This is an aftermath of Congestion of the Lungs and should be treated in the same manner.

GAPES

Perhaps no subject among the diseases of poultry has excited more interest or caused more argument than Gapes. It is one of the most common diseases, though it has baffled the best treatment for years. This was because the ailment was not thoroughly understood and, again, because the trouble was in the windpipe—a difficult place to reach with ordinary remedies. It was not until very lately that a logical remedy was discovered.

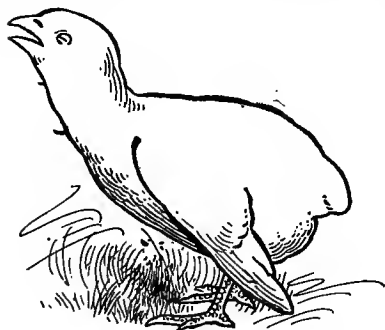


Illustration No. 22.
Chicken with Gapes.

CAUSE—The Gape Worm (*Syngamus Trachealis*) a parasite affecting poultry, usually confines itself to young chicks. The chick acquires the gape worm either through infected drinking water, or from eating angle worms, or from picking gape worms from the ground, etc., where other chicks have coughed them up. Gape worms are, originally,

a parasite of the common earth worm and these earth worms, in an affected area, carry the embryos in their bodies. The best way is for the poultryman to keep all little chicks off such "gapy ground."

During the time that the gape worms are drawing their sustenance from the chick, the chick itself is losing its vitality and strength, just at the time when this is most needed to produce a strong, healthy fowl. If the gape worms gather to any great extent in the windpipe as they mature, the windpipe becomes filled with their bodies and the chick chokes to death. Of course, many chicks have the Gapes and do not die, but this is probably due more to the lack of number of worms than to anything else. Gape Worms do not multiply in the windpipe as the eggs, or embryos, go to the ground before hatching, and it is only the acquired worms that bother the chicks.

SYMPTOMS—This disease first shows as a slight cough; then, as the irritation becomes more acute, and the worms grow larger, it causes the gaping which gives the disease its name. This is usually accompanied by more or less sneezing, difficulty in swallowing, breathing, etc. Inasmuch as the symptoms of this disease are very much like those of Bronchitis and Pneumonia, you should be absolutely certain of the presence of Gapes before start-

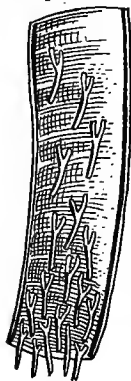


Illustration
No. 23.
Trachea showing
Gape Worm.

ing to treat the fowls. This is best learned by examining the dead birds. After opening the windpipe with a sharp knife, cutting lengthwise, examine its lining and see if you can detect any worms there. A magnifying glass will be found helpful. In little chicks, the diagnosis is not usually difficult, as the constant gaping is almost a sure indication, but older fowls may gape because of some obstruction or from various other causes. Besides this, in Pneumonia or Bronchitis there is a rise in temperature, which is not true of Gapes in its earlier stages.

TREATMENT—We advise that the chicks be removed to new ground, where absolute cleanliness, both of quarters and utensils for drinking and feeding, can be looked after. Do not feed on the ground, but on boards or in shallow dishes, and thoroughly scald these after each feeding. Keep the quarters fully disinfected with CONKEY'S NOX-I-CIDE. If you cannot move your chicks to new ground, make a flooring of matched boards surrounded by wire netting. Place sand, or clean dry earth, on this and proceed as above, changing the soil on the boards once or twice a week. In treating for Gapes, do not become impatient. This disease requires considerable time to wipe it out, and it may be quite a while before you can note any improvement. As long as the chicks do not get worse and die, you may be sure that the remedy is working for a cure, and only calls for constant care on your part. This is one of the slowest diseases to yield to treatment. CONKEY'S GAPE REMEDY is sure and satisfactory, but instructions must be persistently followed.

Along with this treatment other things should be done. As stated above, the disease is introduced by the earth worm. As the irritation becomes intense the fowls cough up the worms and these are eagerly picked up by others of the flock, or the contamination is left on the ground and is mixed with the soil, or is distributed over the drinking vessels, feed troughs, or other utensils, where it is sure to cause infection again. The disease develops an endless chain of trouble. You may cure the Gapes as it stands, but, if you do not wipe out the cause, it will bother you right along and maybe destroy some future hatch. For these reasons, the most stringent measures must be taken to kill it root and branch. CONKEY'S NOX-I-CIDE, one part NOX-I-CIDE to 50 parts of water, should be sprayed or sprinkled thoroughly over the premises where there may be possibility of contamination. All utensils should be washed with the solution and the houses, pens, coops, etc., should be carefully sprayed or sprinkled with it. In very severe cases, where the disease is of long standing, it may be necessary to move your fowls to another section of ground and not to use the old quarters for a year or two. The ground then should first be well sprinkled with NOX-I-CIDE, 1 part NOX-I-CIDE to 2 of water, and then plowed in and sowed to some regular crop. If, however, as soon as you discover the disease among your fowls, you will separate the sick birds and follow closely the treatment we have advised, you should be able to effect a quick cure of this disease. CONKEY'S GAPE REMEDY, like all of CONKEY'S POULTRY REMEDIES, is scientifically prepared and can be relied upon.

Diseases of the Digestive Organs

CHOLERA

Genuine Cholera is a disease but little known and as little understood. The poultryman calls all diseases of the digestive tract "Cholera." He is wrong, but the name has become so common that Bowel Trouble, Indigestion

Diarrhoea, Dysentery, etc., commonly come under that head and we follow the custom so as to be understood. True Cholera is so swift and fatal in its results and so contagious, that there could be no mistaking it. Genuine Asiatic Cholera is seldom, if ever, seen in this country, and our meaning for "Cholera" is the many diseases that resemble it and are so termed by common usage.

CAUSE—The cause of Cholera can usually be traced to filthy quarters or to the drinking of stagnant water. It is frequently brought to a flock by the introduction of some diseased fowl, or contaminated coop, or utensil, from a yard infected with Cholera. Improper feeding, like soured and sloppy mash, often causes forms of Cholera. The feeding of too much of one kind of food, or the lack of some kind of food needed, frequently causes diseases of the digestive tract, as already warned in the matter of green bone, oil meals, green food, etc.

SYMPTOMS—A slight, watery diarrhoea is usually the first indication. The bird shows a lack of life and spirit, and goes moping around half asleep with ruffled feathers. The urates, which is that part of the excrement thrown off by the kidneys, and which in healthy fowls is white in color, takes on a bright yellow tinge or, again, it may turn green. This is not, however, a sure indication of Cholera, for the same symptom is noticeable in other diseases as well. The droppings become bloody as the result of intense inflammation; the comb darkens; frequently it turns black and the decline is rapid—the bird possibly being sick but a few hours—though the length of time varies. It attacks all kinds of domestic fowls and carries with it a high fever, while birds become exceedingly weak and may topple over at the slightest touch.

TREATMENT—The most important aid in the treatment of this disease is a proper disinfectant which should be used freely and regularly. CONKEY'S NOX-I-CIDE cannot be surpassed for this purpose. One gallon of NOX-I-CIDE, when properly mixed with water, will make 101 gallons of ready-to-use disinfectant. This solution can be placed in a sprinkling can and the premises gone over by sprinkling, or it can be sprayed through a regular sprayer.

As soon as any birds show an indication of this trouble they should be isolated from the others. Both the old and new quarters should be disinfected carefully as above described. CONKEY'S CHOLERA REMEDY should be placed in the drinking water and all other water must be excluded. The fever of the disease will make the fowls drink eagerly and they will take their own medicine. This will at once check the internal inflammation, kill all the germs with which it comes in contact, and assist nature in throwing off the disease. CONKEY'S CHOLERA REMEDY should also be given to all birds which may possibly have come in contact with the disease, and they should be deprived of all water except that in which the remedy has been placed, for at least a week. As soon as any fowl dies it should be burned and the ashes and remains buried at a distance from the poultry yards. The drinking water should be frequently changed, and thorough disinfection should be kept up each day and for some time after all traces of the disease have disappeared.

PREVENTION—Very much can be done in the way of the prevention of this disease; in fact, this is by far the most satisfactory and sure method, for if once allowed to get into a flock, it is bound to cause considerable loss before it can be checked. Great care should be exercised in introducing new fowls. They should be quarantined for a week or two until you are

satisfied that they have no disease germs to communicate. CONKEY'S NOX-ICIDE should be used freely about the quarters at all times.

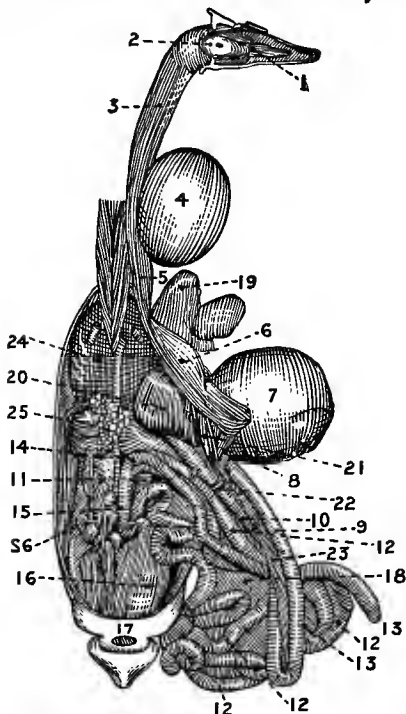


Illustration No. 25.

Digestive Organs of the Chicken.

In illustration No. 25 the upper part of the head has been removed, leaving the lower jaw, and that is turned sideways to show the tongue and openings to the trachea and œsophagus. All the neck, with the exception of the œsophagus, the breast bone, the heart, and the superficial muscles, have also been removed.

1, tongue; 2, pharynx, showing opening to larynx; 3, upper portion of œsophagus; 4, crop; 5, lower portion of œsophagus; 6, succentric ventricle; 7, gizzard; 8, origin of the duodenum; 9, first branch of duodenal flexure; 10, second branch of same; 11, origin of the floating portion of small intestine; 12, small intestine; 13, free extremities of, the cœca; 14, insertion of these two organs into the intestinal tube; 15, rectum; 16, cloaca; 17, anus; 18, mesentery; 19, left lobe of the liver; 20, right lobe; 21, gall bladder; 22, insertion of the pancreatic and biliary ducts; 23, pancreas; 24, lung; 25, ovary; 26, oviduct.

INDIGESTION, BOWEL TROUBLE, DIARRHOEA, DYSENTERY, ETC.

These disorders are usually termed "Cholera," but, fortunately for the poultryman, they are of a far less serious nature and readily yield to treatment if taken in time. It is of the utmost importance that these troubles be promptly and properly attended to for, if they are allowed to run, they are generally fatal and carry off a large number of the flock.

These diseases of the digestive organs are especially noticeable in little chicks and are particularly prevalent during warm weather. They are also evident in fowls of all ages and are one of the greatest drawbacks to the successful raising of poultry.

CAUSE—Most of these troubles can be traced right back to improper feeding. Too much carbonaceous food is given, or the diet is held too strictly to one thing, or to one class of food. Often it is due to a lack of grit. Many people try to get along without this vital necessity. Grit, first, last, and all the time, is a wise motto to live up to. **Again**, these troubles are

caused by the tows eating sour or decayed food, which they pick up for themselves. This may be as good a place as another to speak about sour food.

SOUR MILK IS EXCELLENT FOR FOWLS BECAUSE THE SOURNESS IS DUE TO THE PRESENCE OF LACTIC ACID, WHICH IS NOT ONLY GOOD FOR FOWLS, BUT FOR HUMANITY ALSO. BUT A MASH WHICH HAS TURNED SOUR IS ENTIRELY ANOTHER MATTER, AS THE SOURNESS IS DUE TO FERMENTATION AND IS DEATH TO ALMOST ANY OTHER ANIMAL THAN A HOG. IT IS NOT EVEN GOOD FOR HOGS! Little points of general information like the foregoing, spell success for the poultryman and farmer and lead to the goal of profit and satisfaction.

The drinking water is often a cause of troubles to the digestive organs. It may be stagnant, or it may stand in the hot sun until it is unfit to drink. Always keep pure, fresh water before the fowls.

A common cause is found in the close confinement and lack of green food in winter, and the consequent over-eating of grass, etc., when fowls are turned loose in the spring. They should be fed green food freely during the winter months. See page 19.

If birds are exposed to dampness, or are permitted to live in cold, damp quarters, they are almost sure to have bowel trouble.

TREATMENT—Keep all water from the fowls except that in which **CONKEY'S CHOLERA REMEDY** has been placed. Discontinue heavy mashes and provide only a limited amount of clean, pure food. If too much carbonaceous food has been given, see that a balanced ration takes its place. Sick birds should be placed in dry, comfortable quarters, plenty of grit should be provided, and birds should be free from lice, and kept free by the use of **CONKEY'S LICE PREPARATIONS**. A large proportion of the diseases of fowl is caused by these pests, and no bird can throw off disease if its vitality is being sapped by parasites. The premises, including houses, utensils, runs, etc., should be thoroughly disinfected with **CONKEY'S NOX-I-CIDE**, one part **NOX-I-CIDE** to 100 parts of water. Fowls that die should be burned and the ashes buried.

PREVENTION—Drinking water should be frequently changed, especially in summer, and it should always be pure. Fowls should have clean, dry quarters. Feed should always be balanced and green food should be given regularly. **CONKEY'S NOX-I-CIDE** should be frequently sprayed about the buildings, etc.

WHITE DIARRHOEA (Tiphitis Coccidiosa)

There is a wide difference of opinion as to what this disease really is. A new theory is that it is a bacillary disease due to a parasitic organism very much like the typhoid fever bacillus. We hold that it is a germ disease which attacks the cæca or blind intestine. A post mortem examination will always reveal the presence of *Coccidium tenellum*, a parasite belonging to the Sporozoa of the division Protozoa, the lowest division of animal life. This same germ attacks turkeys, ducks and pigeons. When this disease prevails, it kills from 60 to 75 per cent of all chicks hatched. It is accompanied by a white, pasty, fecal discharge which pastes up the feathers and closes the vent. There is also a disease which is a contraction of the vent which comes with or without White Diarrhoea, and is always fatal.

CAUSE—The presence of the germ (or bacillus) as above. While this

disease may readily be transmitted from the droppings of affected fowls, the primary cause must be sought back to the eggs used for hatching.

PREVENTION—Hatching eggs should always be antiseptically cleaned by wiping in 95% grain alcohol. If an incubator is used (and it allows the best chance for success against the disease) it should be washed with a solution of CONKEY'S NOX-I-CIDE, 1 part to 40 of water, and exposed to the sun. The egg tray should be scalded and washed with the same solution and, if there is burlap in the nursery or elsewhere, it should be renewed. The same precautions should be taken with the brooders. The soil to which the chicks have access should be well disinfected with NOX-I-CIDE solution, dug up often, and exposed to the purifying effect of sun and air.

If a hen is used for hatching, give her CONKEY'S WHITE DIARRHOEA REMEDY as a preventive of the chicks contracting it from her through her droppings. Also, give it to laying hens, as the germ coccidea has been found in the white of the egg and in the shell, which has been taken up in the passage of the egg through the cloaca of the hen. This, of course, applies to poultry yards where the disease may have been more or less prevalent.

While we do not agree with some that the cause of White Diarrhoea is wholly from the unabsorbed yolk in the digestive tract of the chick, we do most strongly advise that little chicks be not fed for the first 48 hours after hatching. This gives the yolk time to be fully absorbed and saves the chick from what would be another favoring condition for White Diarrhoea.

TREATMENT—Give CONKEY'S WHITE DIARRHOEA REMEDY according to directions in the drinking water. This treatment is effective and very easy.

CONSTIPATION

This is caused by a lack of exercise and proper food, or by improper food. Often chicks are given too much cornmeal and other heavy food, and not enough green food and bulky material. Enlarge the runs if possible; give an increased amount of bran in the mash, also putting in the mash a large percentage of cut alfalfa or cut clover, and give them the sweepings from the hay mow to pick over. For medicine give CONKEY'S POULTRY LAXATIVE, either as a laxative, or as a cathartic dose as needed, according to directions.

CROP BOUND

This trouble is usually caused by improper feeding. Too much grain in the crop will distend it and impair its functions. It may be the result of the fowl eating a mass of dry grass, or wire grass, or indigestible chaff, etc., which forms into a hard ball and cannot pass beyond the crop. The contents of the crop ferment and the bird is liable to starve with its crop full.

SYMPTOMS—The symptoms are usually easy to discover as the crop is hard and greatly distended. In some cases, an ill smelling liquid will run from mouth and nostrils. The comb is pale, the beak is open as the pressure on the trachea makes it difficult to breathe, its feathers are ruffled, and the bird has a general appearance of dejection.

TREATMENT—Pour a little sweet oil into the fowl's mouth and force it to swallow. Grasp the legs with one hand and, with the other, beginning

at the top of the crop, gently press and work the contents of the crop, and endeavor to loosen up a small quantity of the matter that may thus be set free. Supply oil often while working, so that the content of the crop may be kept as moist as possible. As soon as the crop is emptied, put two or three grains of baking soda in water and keep it before the fowl. Do not feed anything for a day and then very sparingly and carefully of soft foods until recovery.

Where the above process proves ineffectual, more heroic measures must be taken. Prepare a solution of five drops of carbolic acid to an ounce of water, or, if you have it, CONKEY'S NOX-I-CIDE instead of carbolic acid, as this is safer. After picking the feathers, or clipping them with scissors, from a point near the top of the crop, leaving the skin bare, make an incision an inch long (no longer) lengthwise of the neck and cutting through the outer skin. Now press this skin to one side so that when it is released the next incision will not be directly behind it, and make a half inch opening rather high up in the crop, so that the food will not press it open when healing, as it would tend to do at the lower part. If the mass inside is hard and compact it may be necessary to cut into it with scissors. Your hands, and all tools and instruments used, should be dipped into the disinfecting solution of NOX-I-CIDE or carbolic acid. You may use tweezers, toothpicks, or anything with which you can carefully loosen the contents of the crop, and you must be careful that no portion of the crop's contents finds its way between the crop and the skin. Do not try to hurry, but patiently take everything out of the crop, inserting the little finger to feel that the lower opening to the gizzard is not obstructed. The wound should be washed with the solution and both incisions should be sewed with white silk that has also been dipped in the solution. Now take two single stitches in the cut in the crop, leaving ends long enough to hang out of the wound an inch. Then take three stitches in the skin, being careful not to include the crop in tying the knot. After five or six days cut the stitches and carefully draw them out. This operation is not serious and the bird is soon well.

Feed the bird nothing for at least twenty-four hours; then give small quantities of milk for two or three days. Mashers can be given after four or five days for a time and then give regular foods. It would also be well to put a few drops of CONKEY'S NOX-I-CIDE into each quart of drinking water, as this will prevent infection. CONKEY'S POULTRY TONIC, according to directions, will be found excellent in restoring strength to the fowl after mash feeding is commenced.

GOING LIGHT (ASTHEMIA)

Going Light is a baffling ailment that affects many flocks and individual birds and its causes are varied. It is a germ disease of the small intestines and gets its name from the rapid loss of flesh.

SYMPTOMS—Combs and wattles turn pale; voracious appetite; loss of flesh; and slight constipation.

TREATMENT—The first thing to be done as a check to the cause, is to make a most thorough disinfection of the premises and all utensils used, such as founts, troughs, coops, and houses. The first remedy indicated is a disinfection of the intestinal tracts, for which give CONKEY'S CHOLERA REMEDY as directed, or a little of CONKEY'S NOX-I-CIDE in the drinking water—not so strong that they will not drink it, 15 drops to a gallon of water is about right. Then give CONKEY'S POULTRY TONIC according to directions to build up the system and restore the strength.

Leghorn chicks frequently go light from a too rapid growth of wing feathers, which should be clipped so as to stop the drain on the body. Young pigeons may go light from rapid growth of tail feathers and these should be plucked out with a quick jerk for the same reason.

Going Light is often not so much of a disease in itself as it is a symptom of some other disease such as Tuberculosis, Infectious Leukaemia, Aspergillosis, Mould, or any disease where the blood becomes impoverished.

CATARRH OF THE CROP

This is an inflammation of the membranes of the crop caused by over-eating due to irregular or careless feeding, by eating foreign and irritating substances, by worms which collect in the crop, or by eating poisonous substances.

SYMPTOMS—Loss of appetite and debility. Fowls try to eject the contents of the crop and may belch as would a human being with indigestion. The crop is distended and feels soft, being filled with foul gas or liquid.

TREATMENT—Hold the fowl head down and press the contents of the crop gently out of the mouth. Dissolve one grain of salicylic acid in an ounce of water and give three teaspoonfuls at once. Do not give any food for from 20 to 24 hours; then give small quantities of simple, easily digested food, in which has been mixed CONKEY'S POULTRY TONIC according to directions. To prevent such troubles do not over-feed, and feed regularly. Mashies should be in such quantity as will all be eaten up in fifteen to twenty minutes. Grains should be given in litter to make the fowls work.

GASTRITIS

This is inflammation of the stomach which lies between the crop and the gizzard, due to eating mouldy or poisonous substances, to the feeding of foreign and indigestible matter, or to constant over-feeding.

SYMPTOMS—Inflammation of the crop, or intermittent diarrhoea and constipation. There is a loss of appetite and general debility, together with increased temperature.

TREATMENT—Give birds more range and a change in diet. Give boiled rice-water to drink. If birds are constipated, give CONKEY'S POULTRY LAXATIVE according to directions, continuing if necessary. Under-feed, giving crumbly soft mashies mixed with water that has been poured hot over clover. Also give some meat food.

OBSTRUCTION IN THE THROAT

A fowl will sometimes attempt to swallow a piece of food which, because of its shape or size, will lodge in the throat. Unless removed at once, inflammation and consequent swelling will result and without immediate relief death will follow.

SYMPTOMS—Frequent attempts to swallow, and often a hard substance can be felt from the outside.

TREATMENT—Give a small quantity of sweet oil and work the substance out at the mouth by easy pressure and movement.

BAGGING DOWN

This is caused by feeding too freely of corn and other carbonaceous foods, and results in irritation, inflammation, and loss of feathers, of the posterior part of the body, by its hanging down.

TREATMENT—Change the diet, giving feeds containing largely protein, supply liberal quantities of green foods, and make fowls scratch for all grains in deep litter, thus compelling exercise.

DISEASES OF THE LIVER

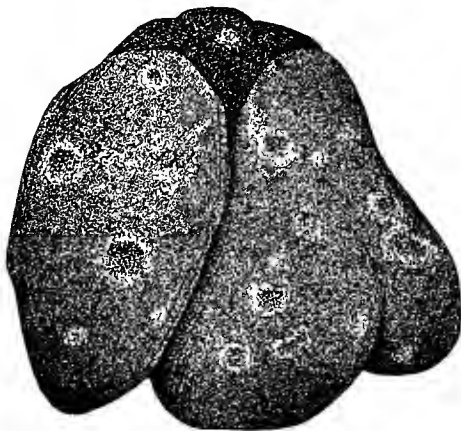


Illustration No. 26.
Diseased Liver.

The liver in fowls, as in human beings, is one of the largest organs of the body and one of the most important. It prepares the bile which plays such an important part in digestion and it has much to do with the chemical changes in the blood. The principal diseases are Congestion of the Liver—Inflammation of the Liver, called Hepatitis—Atrophy, or wasting of the Liver—and Fatty Degeneration of the Liver. For our purpose, all of these may be classed under the head of liver troubles, as many of the symptoms are practically identical and the method of treatment is very much the same.

CAUSE—The main cause of Liver Trouble is found in the lack of exercise and improper feeding. Foods which are too

rich, or too heavy in their proportions of starch and fat-producing elements, may have been fed. This is frequently occasioned by the scraps from the table and kitchen which contain so much bread, potatoes, etc. If scraps are fed, and they can be used to great advantage, they should be perfectly mixed with other foods, so that the whole presents a balanced ration.

These troubles are also caused by the presence of parasites in the liver, those characterizing Chicken Cholera, Tuberculosis, and Blackhead (the latter is found in Turkeys) being the most common. These cause various derangements—inflammation, and finally death of the tissues.

SYMPTOMS—The great trouble in overcoming Liver Troubles is that the symptoms are often misleading and are slow to appear, the result being that when they are discovered it is often too late to apply an effective remedy. The Fancier, or careful poultryman, who watches his flock closely, is able to detect these symptoms, but with the ordinary market poultryman, the disease is liable to be well advanced before the need of a remedy becomes apparent.

The comb and wattles usually show a lack of color, gradually changing to dark red or purple; there is a loss of appetite and the bird is sluggish. In Jaundice the skin takes on a yellowish hue, and this is also indicated in the comb and wattles. The disease is commonly attended by a diarrhoea watery

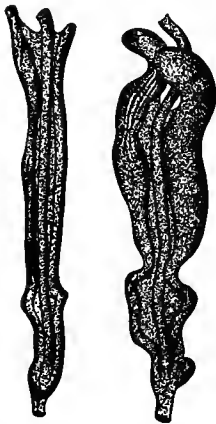
and dark in color, and gradually changing to a yellow cast. There is much loss in weight and the bird becomes poor.

TREATMENT—Give free and open range if possible and see that birds have plenty of exercise. Give as a purgative one rounded teaspoonful of **CONKEY'S POULTRY LAXATIVE** to each two quarts of mash feed for two days, then discontinue for two days and repeat. If this remedy cannot be given in the feed, mix the **LAXATIVE** with a little sugar syrup and roll into pills, giving each fowl one the first day and repeat the second day if necessary. Change the diet, providing a supply of clover, or other green food, especially in the mashes. Discard cornmeal, bread, potatoes, and all starchy foods as much as possible, and substitute foods which are high in protein, such as wheat, ground peas, oats, etc. Raw beef or green cut bone will be found very beneficial. **CONKEY'S POULTRY TONIC** given according to directions will be found excellent for bringing the birds back to proper condition.

BLACKHEAD

(Infectious Entero-Hepatitis.)

This is a parasitic disease which attacks the cæca, sympathetically affects the liver and is confined principally to turkeys. The Cæca is a sort of blind double-intestine and, much like the vermiform appendix in human beings. Its use is not fully understood. We do know, however, from dissection, its exact form in both normal and diseased condition.



Cæca of
Healthy
Turkey.

Cæca of
Diseased
Turkey.

Illustration No. 23.

CAUSE—The disease is caused by a parasite (*Amœba meleagridis*) which is taken into the digestive system with the food or drink. It attacks the mucous membrane of the cæca and brings on intense inflammation. The micro-parasites find their way from the diseased cæca into the liver, which brings this disease under the head of Liver Trouble.

SYMPTOMS—General Weakness, loss of appetite, and an almost constant diarrhoea. As the disease progresses, the head becomes discolored, turning quite dark, which gives the disease its name.

TREATMENT—This must be largely preventive. **CONKEY'S POULTRY TONIC** in the mash food, and **CONKEY'S CHOLERA REMEDY** in the drinking water, have been found effective. We have, however, a special **BLACKHEAD REMEDY**. While we do not guarantee this remedy to cure all cases, it has proven so thoroughly efficacious in so many instances, that we feel compelled to put it on the market for those who wish to take advantage of it. (See Special Remedies, page 68.)

Where the disease has reached its height heroic measures must be adopted. Remove all affected birds and disinfect the premises, utensils, houses, etc., with **CONKEY'S NOX-I-CIDE**. Give the preventives to those not attacked and give **CONKEY'S SPECIAL BLACKHEAD REMEDY** to the affected fowls which you have separated. Keep up constant disinfection.

The germs are thrown off from the bowels and, as the diarrhoea is severe, the danger of infection is very great.

Blackhead is one of the most fatal poultry diseases to attack a flock, (usually turkeys) and no one can guarantee a cure after the disease is once thoroughly established.

Diseases of the Urinary and Reproducing Organs

INFLAMMATION OF THE OVIDUCT

This is caused by fowls laying eggs too often or eggs too large. It is also caused by internal disorders of the oviduct, such as Egg Bound, breaking of the egg in the oviduct, etc. These last mentioned may be caused by an overplus of fat from improper methods of feeding.

SYMPTOMS—The fowl strains repeatedly as if attempting to lay and, if it does lay, the eggs may be spotted with blood. The straining often leads to ruptured blood vessels which cause death. The vent is inflamed, the temperature first increases, but later decreases as the fowl loses strength, and finally dies of exhaustion.

TREATMENT—The diet should contain a large share of green food, and all grains, or mashes, should be cooling. Do not give stimulating or condimental foods. The birds should be separated from the flock and be given a quiet place. Two grains of Bi-carbonate of Soda, together with a dose of CONKEY'S POULTRY LAXATIVE, will be found helpful. If you think that the egg is lodged in the passage, insert an oiled finger and proceed as in Egg Bound, but every movement should be slow and patient, as the inflammation is intense.

PROLAPSUS OF THE OVIDUCT

This is confined mostly to old hens, and is due to over-stimulating food, straining, especially when passing large eggs, and may also be due to constipation. It is frequently one of the results of Inflammation of the Oviduct.

SYMPTOMS—There is generally a protrusion from the vent of a dark-red or violet-colored mass, which becomes highly inflamed, and which is liable to invite Gangrene, in which case death is inevitable.

TREATMENT—Determine at once whether or not there is an egg in the passage. If so treat as for Egg Bound. If it is not due to this trouble, then bathe the parts in a weak solution of CONKEY'S NOX-I-CIDE and, when dry, apply CONKEY'S HEALING POWDER, and gently press the protrusion back into place. Then follow treatment as outlined for Inflammation of the Oviduct. In addition to this, give the fowl four drops of Fluid Extract of Ergot.

VENT GLEET

Cloacitis, or Vent Gleet, is a contagious catarrh of the cloaca and is usually transmitted from fowl to fowl in the act of copulation.

SYMPTOMS—It is first indicated by frequent passages of excrement, the bird often trying to pass matter when there is nothing there. The mem-

branes are red, dry and swollen. A thin, watery discharge appears, which becomes white later on and is very offensive.

TREATMENT—Separate the sick birds from balance of the flock. Immerse the lower portion of the fowl's body, including the vent, in warm water, to which has been added one tablespoonful of bi-carbonate of soda. Dry and repeat at intervals if necessary. Dissolve 1 grain of permanganate of potash in 4 oz. of water. Bathe part and inject into vent daily until cured.

EGG BOUND

This happens with older fowls and during the latter part of the winter. It may be traced, in most cases, to an over-fat condition due to improper feeding.

SYMPTOMS—The symptoms are unmistakable as the bird becomes listless and makes frequent attempts to expel the egg. If the bird is examined, the egg may be felt as a hard substance in the posterior part of the body.

TREATMENT—In ordinary cases, inject a small quantity of sweet oil into the vent and then, by gentle pressure, assist the passage of the egg. When this is accomplished, reduce the feed and give green food in abundance, withholding all carbohydrates or fat-producing foods. If this does not bring the desired result, and the egg is not ejected, immerse the posterior portion of the fowl in warm water for about half an hour. Inject oil as before and endeavor to assist the egg's movement by using a gentle pressure. If this fails, it is best to insert an oiled finger, breaking the egg, thus allowing its contents to escape, and then remove the particles of shell with the finger. If, during this treatment for Egg Bound, Tincture of Ergot is given, five drops to a dose two or three times a day, it will be found helpful. If it happens that through the fowl's attempt to expel the egg, the oviduct is ruptured, and the egg breaks through into the abdominal cavity, it will lead to death. If this is found to be the case, by all means kill the fowl.

BLOODY EGGS

Sometimes there may be found clots of blood within an egg. These are due to internal hemorrhages and can usually be counteracted by feeding plenty of green food, and discontinuing condimental foods, and giving less animal food; the object being to allay inflammation which may have produced the hemorrhage.

EGGS WITHOUT SHELLS

These are usually accounted for by a lack of shell-making material in the ration of the fowls. They may also be traced to the inflammation of that part of the oviduct where the shell is formed. This trouble leads to more or less irritation and should be corrected at once. This can be done by providing plenty of crushed oyster shells, mortar, granulated or broken dry bone, wheat bran, etc. We do not advise the use of egg shells as this may lead to the egg-eating habit.

DOUBLE YOLKED EGGS

These are often found, and the egg containing double yolks is usually larger than the normal egg and, for this reason, may cause some difficulty. As a rule, there is no cause for concern. Eggs of this kind should not be incubated, as they will usually produce freaks.

DIMINUTIVE EGGS

An examination of these will usually show an absence of a yolk. The albuminous part of the egg is present, but irritation in the oviduct has interfered with the proper union of the yolk and albumen. The albuminous matter, reaching the shell-forming part of the organ, is provided with the proper covering and the incomplete egg is laid. When you discover a hen having this tendency, separate her from the others. As the trouble is due to inflammation of the oviduct, follow treatment suggested under that heading.

EGGS WITH ODORS

When such foods as onions, fish, and even garlic, are fed in small quantities, they may prove beneficial, but when layers have access to such strong foods they often taint the eggs. It is on the same principle that celery is used in fattening food for ducks, to give the flesh a celery flavor. Avoid such strong foods where you are producing eggs for special market.

TWO EGGS IN ONE

Hens will occasionally lay an egg which contains within itself another egg with its proper shell covering. The inner egg, however, usually corresponds with our description of diminutive eggs—that is it contains no yolk. The small egg is formed and an attempt is made to lay it. Instead of passing out, a counter movement forces it back into the oviduct, where it probably comes in contact with the albumen and yolk of another egg on its way to the uterus to be covered with a shell, and the double egg is expelled. This condition, if continuous, is abnormal, and is an indication of the fact that the fowls are being too much forced for egg production.

HOW TO PRODUCE EGGS

Hens for breeding, and fancy stock, should never be forced! Utility stock should be made to pay all that it can while it can. Is it not better to feed fowls for a maximum egg yield for two years and then replace them with new stock, rather than to feed them for four years for a continuous, minimum egg yield?

Horses are fed to draw the heaviest loads; cows are fed to give the most milk, so why not feed your fowls to produce the greatest profit? Some people say, "Why, it is not natural!" Neither is laying more than twelve eggs a year natural, and it is most decidedly unnatural for a hen to lay an egg in cold weather! Stick to nature and you will go bankrupt in the poultry raising business!

Twelve years of careful study and research have evolved CONKEY'S LAYING TONIC, an article that does not force the hen to lay an egg, but forces health—that summer vigor with which nature procures its supply, and it does what nature does not, and that is keeps their vigor at its highest point all the year around! Let us tell you what CONKEY'S LAYING TONIC does for the hen, and then apply your own reasoning powers.

CONKEY'S LAYING TONIC insures perfect digestion and tones the egg-producing organs. By keeping the health at the maximum point it prepares the proteids for egg production and invites summer activity in the winter season. It assists in the maintenance of heat without fat, thereby inducing egg laying by natural methods and without forcing. It assimilates the carbohydrates—the heating foods—with the rich blood that serves to convey the protein, thereby overcoming the greatest problem against nature—

the problem of furnishing winter heat without winter sluggishness. All this is the secret of winter eggs, and it is worth finding out. See CONKEY'S LAYING TONIC, page 70.

POISONING

Through careless distribution of insect killers, salt brine, salt meat, lye, fertilizers, copperas, phosphorus from matches, rough on rats, paint left in old cans, Paris green, etc., many fowls meet death annually. It is necessary to use the utmost precaution to prevent fowls from obtaining access to them.

SYMPTOMS—Trembling, convulsions, and drowsiness. The fowls seek a dark place and draw their heads into the body. As a rule, the cause of the trouble is discovered too late to permit treatment.

TREATMENT—If the nature of the poison can be discovered in time, an antidote for same should be given. Where the poison is due to salt, lye, or fertilizers which contain nitrate of soda, give as drinks strong coffee, brandy, or flaxseed and water after steeping. This flaxseed preparation is also good for arsenic poisoning. Sulphate of Iron in drinking water can also be used. Where poisoning is due to copper, zinc, phosphorus, or lead, give white of egg in liberal quantities.

MOULD (Aspergillosis)

This form of poisoning is occasioned by fowls inhaling, or otherwise taking into their systems, mould which they obtain from mouldy food, or from mouldy hay, straw, vegetables, etc. Some people believe that anything is good enough for poultry and buy musty, burned wheat, etc. It is a costly economy and, sooner or later, Mould will be the result.

SYMPTOMS—It is indicated by lack of ambition, the fowl separating itself from the others. The bird is sleepy and sits down from lack of strength. There is usually some catarrh, with rattling in the throat, difficult breathing, and temperature above normal. There is frequently a fungus growth on the membranes, holding the mouth open and something resembling canker.

TREATMENT—Practically nothing can be done. Birds dying from it should be burned and the remains buried. Prevention is the best plan. See that nothing of a mouldy nature, either as a food or litter, is placed within their reach. Shake out and air all straw used for litter. Frequent spraying of premises with CONKEY'S NOX-I-CIDE will be found of great value. If you wish to try treatment, give strong coffee, brandy, and $\frac{1}{2}$ to 1 grain of Quinine several times a day.

LIMBER NECK

This is ptomine poisoning and is a very fatal disease, demanding immediate treatment. It can be easily cured in all early stages.

CAUSE—Limber Neck is caused by the fowls having access to, and eating from, putrefying animal matter. If the premises are diligently searched when this disease first makes its appearance, some dead animal, or fowl, will be found in a state of decomposition, upon which the birds have been feasting. The eating of maggots from such putrefying flesh may result in the same disease. It might also possibly be due to intestinal worms, but that is not frequent.

SYMPTOMS—The main symptom from which the disease gets its name is the peculiar action of the neck, which is so limber that the bird can-

not hold its head in position. The bird is weak on its legs and staggers and trips as it attempts to walk.

TREATMENT—First find and burn the cause, burying deeply what remains in a secluded spot. Disinfect the immediate location with a solution of CONKEY'S NOX-I-CIDE. Separate the sick birds from the others. Place one heaping teaspoonful of CONKEY'S LIMBER NECK REMEDY in a quart of water and stir until dissolved. Then give each bird one table-spoonful of the solution three or four times a day according to the severity of the attack. Hold the bird's head back and elevate the bill when giving the medicine.

If the affected flock is too numerous to administer individual treatment, good results may be obtained by giving no other water than that in which CONKEY'S LIMBER NECK REMEDY, in above proportion, has been placed, but treat individually where possible for the best results. One day's treatment should thoroughly overcome the trouble, if the remedy has been promptly and properly administered.

Parasites

ROUND WORMS

Worms are not a source of serious trouble among fowls, but every poultryman should know what they are, their symptoms, and the proper treatment.

This name is derived from the form and is used to distinguish them from the flat tapeworm. They are white in color, with the head pointed, and their length varies from one-half inch to four and five inches. They are not a source of great trouble unless present in large numbers, in which case their very mass interferes with the passage of food and proper digestion. Their presence also causes more or less irritation, which brings on diarrhoea, and they take so much of the fowl's food for their own sustenance that the fowl loses strength.

SYMPTOMS—It is difficult to outline symptoms which can be taken as certain evidence of this trouble. Sometimes these worms pass through the intestines and are thrown off in the excrement, in which case they can be detected. A slight diarrhoea and general symptoms of indigestion are usually present, together with a wasting away in spite of a vigorous appetite. When dressing fowls for market, be on the lookout for these worms and, if detected, note the fowls showing symptoms and give them treatment. Worms often cause staggering and this symptom is called Staggers by many as a special disease.

TREATMENT—We have a special remedy for worms which is excellent if given according to directions. The trouble is not common enough for dealers generally to keep this remedy in stock, but we will mail it to those who send to us for it. See CONKEY'S SPECIAL REMEDIES, page 68.

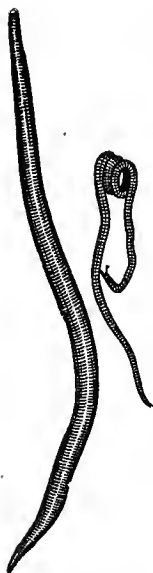


Illustration
No. 29.
Round Worm—
*Heterakis Perspi-
um.*

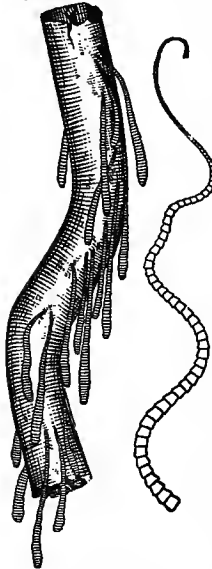
SCALY LEG

This disease is caused by a parasite working in and underneath the scales of the feet and legs. The scales are loosened and elevated by a powdery substance accumulating beneath them, which gradually spreads from the toes, up the legs until the feet and legs are much larger than in normal condition, often making it difficult for the bird to walk. Scaly Leg is contagious and while not fatal, it is injurious to the bird and lowers its sale value, as well as its usefulness. Never set a hen having Scaly Leg—cure her first. The disease is more contagious among fowls which are poorly cared for, but the very best cared for may contract it.



TREATMENT—CONKEY'S SCALY LEG REMEDY combines a wash and an ointment which comes in the same package. Place two tablespoonfuls of the liquid in each pint of warm water and stand the bird

Illustration No. 31
Scaly Leg.



in this until the scales are thoroughly softened. Then rub off scales gently with blunt stick, dry the legs, and apply the ointment daily for three or four days and, if necessary, use warm liquid once more to soften scales. Then again apply the ointment. It is wise to dip legs of all your fowls as above, two or three times, even if but few are troubled, as it is contagious and this may save the balance of your flock from the disease. The houses should be thoroughly cleaned and then sprayed with a solution of CONKEY'S NOX-I-CIDE, one tumblerful to a pail of water.

TAPE WORM

The name is derived from the great length of these worms and their thinness—resembling a piece of tape.

SYMPTOMS—The symptoms are much the same as with the round worm. Frequently, however, sections of the worms may be noticed in the droppings. Fowls mope around from no apparent cause, and their plumage is rough and loses brilliancy. They become dull and listless and show no disposition to work. There is usually diarrhoea, and the birds grow weak and thin.

TREATMENT—All droppings should be burned immediately and premises disinfected with CONKEY'S NOX-I-CIDE. Follow suggestions for round worms regarding special remedy. See CONKEY'S SPECIAL REMEDIES, page 68.

The Tape Worm
(Drepanidotaenia
Infundibuliformis.)
Illustration No. 30.

LICE.

The word "Lice" explains more disease, more poor egg records, more loss to the poultryman, than all other causes combined. If a fowl is not doing well, and is in any respect below standard, the very first thing that should be done is to LOOK FOR LICE. If this book accomplishes nothing more than

to impress this emphatically upon the mind of every reader, it will have fulfilled a mission the benefit of which cannot be estimated, and will have resulted in saving many poultrymen a large amount of money, not to mention worry and disappointment.

Many people maintain that lice can spring spontaneously from filth alone. This is not true. Lice can generate only from parent stock and these, in some manner, must be introduced into a flock before lice can be present. The ways of introduction, however, are so numerous, that it is almost universally true that where the fowl is, there also will be found the louse.

There are many kinds of lice that attack the domestic fowl and we might enter into a technical description of their nature, habits and classification, but this would be a waste of time from a practical standpoint. For our purpose we can consider them under three classes, as their habits run in three directions, and it takes three different preparations to exterminate them all. NEVER PUT FAITH IN A CLAIM THAT ANY ONE PREPARATION WILL EXTERMINATE THEM ALL WITHOUT INJURING THE FOWL. We will call the three classes. Body Lice, Head Lice, and Mites.



Body Louse.
Lipeurus Variabilis.
Illustration No. 32.



Head Louse.
Menopon Biseriatum.



Mite.
Dermanyssus Gallinae.

BODY LICE—Body Lice are to be found on all parts of the fowl's body, but more generally around the vent and wherever the fluffy feathers are located. They usually remain on the fowl's body and multiply very rapidly. It is estimated that in eight weeks' time, one louse can have produced, from itself and offspring, 125,000 lice. While this species do not suck the fowl's blood, they live on the roots of the feathers and by attacking the scales of the skin. This results in extreme irritation and constant fretfulness of the birds.

HEAD LICE—These lice are of the family "pediculidae" which are true blood suckers, and have long bills with which to puncture the skin and blood vessels underneath. They fasten on the heads and throats of little chicks, leaving the head of the mother hen as soon as the chicks are hatched. They quickly sap the vitality of young chicks, and thousands upon thousands die yearly from this cause alone. Brooder chicks are not exempt unless the utmost care is taken to keep the brooder free from lice.

MITES—These pests are the worst of all, if it is possible to make comparisons. Unlike the body lice, they remain on the fowl's body only at night. During the day they hide in the cracks and crevices of the roosts, droppings boards, walls of the houses, etc., or any spot where they can conceal themselves. Where the roost comes in contact with the side of the building, they find a convenient lodgment. You may notice an accumulation there which has every appearance of a handful of dust. It may escape your serious notice

for a time, until you discover that it moves and is a mass of living organisms—a countless body of mites waiting for roosting time. What a reception for the flock, which has spent much of the day in a vain effort to rid themselves of the body lice by diligent picking and scratching, to have this army of Mites quickly spread themselves over their bodies, to bite, or bore, through the skin, suck their blood, deprive them of rest, and sap the best of their vitality!

CAUSE—As stated above, lice do not spring up themselves, though the main cause of their increase is carelessness and filth. Where you find a flock poorly housed in damp, mouldy, ill-smelling quarters, and lacking in the constant care and attention they are entitled to, there you will find lice in countless numbers. The very rapidity of the increase of these pests explains how necessary it is to everlastingly fight them, with absolutely proper preparations for killing them, and by keeping the house and surroundings scrupulously clean. By keeping your fowls hard at work and in vigorous health you will avoid a great portion of this trouble, as lice are not nearly as apt to infest the thrifty, healthy fowl as the bird which is depleted in health and strength. Always provide suitable and sanitary quarters if you wish the most from your flock.

SYMPTOMS—Fowls troubled with lice show a decided restlessness. They are continually picking, scratching or dusting themselves. Their plumage becomes ragged and torn from constant picking, and faces, skin, and combs become pale. They grow listless, thin, and finally become but skin and bones. The egg record grows less and less until there is nothing to record. Frequently a dead fowl is found under the roost. Sitting hens leave the nests frequently, and often forsake them, as they grow sick and are forced to give up in self-defence. Little chicks have bowel trouble and drop off, or slowly droop and die. It is impossible to name all the symptoms. Many put the symptoms down as those of cholera and other diseases, and “doctor” their flocks accordingly. They are unwilling that anyone should even suggest the presence of lice in their flocks, when these pests are, perhaps, the only menace that stands between them and success.

TREATMENT—The first thing to do is to clean up and to remove all filth and uncleanness from in and about the poultry houses, and to make the quarters neat and sanitary—**AND KEEP THEM SO.** Don't allow droppings to accumulate, and it is best to remove them daily. Droppings boards under the roosts are an absolute necessity, as they can be kept clean with but very little labor. This will put you in position to most effectually use the proper remedies for overcoming lice. Provide the fowls an ample dust bath of clean, fresh earth, (not road dust as is generally recommended) and they will soon make dust of it. To this should be added a liberal sprinkling of **CONKEY'S LICE POWDER.**

TO KILL BODY LICE—For successfully fighting body lice, nothing is equal to a good powder. Fowls should be grasped by the legs and held head downward, while **CONKEY'S LICE POWDER**, which is the best combination of lice-killing agents known, should be thoroughly dusted into the feathers, and should be well rubbed into the skin, especially among the fluffy feathers.

To secure an effectual lice powder that would not harm the fowls' eyes, has been a problem in the past. **CONKEY'S LICE POWDER IS ABSOLUTELY HARMLESS** to the fowl, and positive and instant death to the lice. Dust the fowls thoroughly every ten days, or two weeks, particularly during hot weather, as the nits will hatch after the old lice are killed and

even though you kill every louse and nit on a fowl, if a single one manages later on to find lodgment on the fowl's body, its great capacity for increase will soon cover the fowl and its mates again with lice. Sitting hens should be dusted with CONKEY'S LICE POWDER several times as directed, and all nests should be freely dusted.

(CONKEY'S LICE POWDER is also excellent for lice and fleas on dogs, horses, hogs, etc. It is also deadly to insects on plants, vines, etc., and slugs on rose bushes, besides being a most excellent disinfectant and germ destroyer wherever used.)

TO KILL HEAD LICE—Head lice are a constant menace to the health of the adult fowls, and a greater factor in the destruction of little chicks than all other causes combined. They fasten themselves on the heads of the older fowls and suck the blood from a position just over the brain. Soon as the chicks are hatched, they catch these head lice from the old hen, or from the carelessly-kept brooder, and the lice immediately begin sucking their life blood. Unless these head lice are destroyed at once, they become death warrants for a large portion of the hatch.

You must look very closely for them, as they get clear down to the base of the feathers and may be mistaken for pin feathers. Their enormous size readily explains their death-dealing power to little chicks. Chicks raised in brooders are frequently troubled, so examine your chicks carefully. CONKEY'S HEAD LICE OINTMENT is a clean, non-poisonous, nicely perfumed ointment, which is perfectly harmless to little chicks and deadly to these murderous lice. A little is all that is needed, and saving one chick will pay you for all you would use on a hundred. Do not try to raise chicks without it. It is also good for lice on children should they happen to catch them.

TO KILL MITES—For the destruction of the much-dreaded mite, a liquid is far superior to a powder, as it can be sprayed directly into their living places where a powder cannot reach. CONKEY'S LICE LIQUID is correctly compounded, is always the same, and is guaranteed to do its work quickly, effectively, and in a manner entirely satisfactory to you. This liquid should be painted on the roosts, sprayed over the droppings boards, nest boxes, and all parts of the building where there is any possibility of Mites finding a hiding place. Care should be taken to paint the under sides of roosts, and to fill all cracks and crevices with the liquid. Not only will this kill the Mites with which it comes in contact, but its fumes will get into the feathers of the fowls when they go to roost, and will do excellent service in helping kill the body lice. It is a strong disinfectant and germicide and its frequent use will assist materially in keeping down disease. It comes in different sized cans, as listed under the heading of CONKEY'S POULTRY REMEDIES.

Before leaving this subject, we wish to outline a very quick, cheap, and sure way to rid yourselves of these pests. In the afternoon take out all litter and burn it; then remove the roosts, nest boxes, and all apparatus attached to the walls, if at all possible, and thoroughly paint same with CONKEY'S LICE LIQUID. Into each gallon of whitewash, which should have been prepared ready for use, mix about a half pint of CONKEY'S LICE LIQUID, or CONKEY'S NOX-I-CIDE if you have it. With this, thoroughly spray or paint every part of the house. Don't leave a crack or crevice that is not thoroughly soaked with this preparation. Just before the fowls go to roost, sprinkle each one with CONKEY'S LICE POWDER according to directions, immediately putting the bird carefully on the roost before it has had time

to shake itself. After treating all of them in this manner, shut the house. In an hour or two, open the door or curtain for a few minutes, as you will find the house filled with the fumes from the powder, and it will be necessary to let in some fresh air before closing the openings for the night. We have known this plan to be followed by those whose houses and birds were "alive" with lice, with the result that the next day not a louse or mite could be found even after the most rigid examination. The secret of keeping these pests down lies in regularly going over the fowls and houses carefully. Keeping everlastingly at it is the price of success.

THE DEPLUMING MITE

This parasite usually makes its appearance in the spring and summer and attacks the roots or base of the feathers, which break off and leave a bare spot. It is quickly passed from one fowl to another and rapidly spreads through an entire flock. The bare spots left by the work of these mites will not present an abnormal appearance but, if near-by feathers are removed, the mites can be detected at their base, having the appearance of fine dust.

TREATMENT—All houses, roosts, etc., should be gone over carefully with whitewash, in which has been mixed CONKEY'S LICE LIQUID or CONKEY'S NOX-I-CIDE. The fowls should be annointed every few days with CONKEY'S HEAD LICE OINTMENT, and this should be persisted in. It will be found very effective to dip the fowls in a one-per-cent solution of NOX-I-CIDE— $\frac{1}{2}$ tumblerful to a pail of water—repeating the operation in from three to five days.

STICK-TIGHTS OR HEN FLEAS

The Stick-tight is a flea which is very annoying in many of the southern states. It is sometimes called the Hen Flea and is a common pest in warm climates. It is generally found attached to the comb and wattles, with its head buried in the flesh. In many cases these insects are so crowded about the eyes that the bird cannot see to eat. It is impossible for the bird to remove them, and they cling so tightly that the poultryman cannot pick them off.

TREATMENT—CONKEY'S FLEA SALVE effectually destroys stick-tight fleas without harming the bird in the least degree. You may find them on the bird in the morning after applying, but they will be dead and can easily be brushed off. You must rid the premises of them also, for they will be on the ground and in the houses. Spray the ground, houses, nests, and roosts with a solution of CONKEY'S NOX-I-CIDE—one tumblerful to a pail of water, and keep this up two or three times a week until the fleas have entirely disappeared. Rub CONKEY'S FLEA SALVE on the comb and wattles where you can see the fleas. It is not necessary to have a thick application, but only enough to smear the fleas thoroughly. This salve will not injure the fowl's eyes, and one application is usually sufficient, though a second may be necessary in aggravated cases, and to kill the nits which may hatch out. Fleas breed in dark, dry places, where the rain cannot reach, as moisture stops this breeding. Deprive the fowls of all shade where rain cannot reach.

Various Diseases

CHICKEN POX

This disease is known by different names in different localities, such as Sore Head—Pigeon Pox—Warts and Pian. It is a fungus growth which

multiplies rapidly and develops in poultry houses that are not properly cleaned, especially where accumulated droppings have become wet. Moisture must be present to produce the growth. Chicken Pox is very contagious, though not necessarily fatal, and is a very annoying and disgusting disease, which brings down the general health of fowls and opens the way for other diseases. It is often called the Small Pox of the poultry yard. If allowed to run, it leads to weakness and death.

CAUSE—It is often introduced by new birds, though certain conditions in a poultry house will start the disease. It is especially noticeable in damp, cold weather, and in houses which are not kept clean and dry. It attacks chickens, turkeys, pigeons and geese, but principally chickens and pigeons.

SYMPTOMS—Scabby warts on the comb, lobes, and face. These are yellow and rough and resemble the common wart. When broken they discharge a thick yellow liquid.

TREATMENT—Isolate all affected birds and thoroughly disinfect the houses, etc., with a solution of CONKEY'S NOX-I-CIDE, one part to fifty of water. Then dry out by opening doors and windows. CONKEY'S CHICKEN POX REMEDY is a combination salve and powder which come in the same package. Apply the salve daily to affected parts, and the cure is hastened if the warty growths are softened with warm water and soap, and the tops of the warts are gently removed with a blunt instrument, before applying the salve. Place one teaspoonful of the powder in each quart of soft feed, and give this to the birds once a day for four days and discontinue for three days. If necessary to continue longer, use half the amount to each quart of feed, keeping it up for three days, and so keep on, gradually reducing the amount.

WHITE COMB

Many confuse this ailment with Favus, though it is entirely distinct. It is quite a mild disease, showing an apparent white powdering of the comb, which looks like flour, or Plaster of Paris. It sometimes extends over the head and down the neck, causing the loss of feathers.

CAUSE—It is generally due to dirty quarters, or over-crowding in houses, or a lack of green food. A frequent cause is a lack of fresh air, sunshine, range, etc., and close confinement. This is not of a fungoid origin, and is not as highly contagious as Chicken Pox and Favus.

TREATMENT—White Comb succumbs to the same treatment as Chicken Pox and Favus, and CONKEY'S CHICKEN POX REMEDY will be found efficacious.

INFECTIOUS LEUKAEMIA

This is not an uncommon disease, but one which is little understood or suspected by the average poultryman. It is caused by bacteria which are bred and nourished by unsanitary and foul conditions in brooders, poultry houses, yards, etc. It is contagious and fatal.

SYMPTOMS—Loss of strength, dullness and drowsiness. The temperature is two or three degrees higher than normal. The effect of the disease is to increase the white and decrease the red corpuscles of the blood and, as a consequence, the comb, wattles, skin, and all visible mucous membranes, such

as those of the mouth and head passages, become pale. Death usually occurs in from four to five days, though life may be prolonged for several weeks.

TREATMENT—Poultry premises should have a thorough cleaning and everything about the place should be thoroughly disinfected with CONKEY'S NOX-I-CIDE, one part NOX-I-CIDE to 100 of water. This must be repeated daily until the disease is checked, and the utmost cleanliness must be observed. Only clean, pure, wholesome food should be given, and drinking water must be frequently changed, and should be given in fountains which will keep out the filth and droppings from the birds. CONKEY'S POULTRY TONIC should be fed daily in the mash.

FAVUS

This disease is a growth of the fungus known as "Achorion Schoneinii." This same fungus has been known to attack man, as well as dogs, cats, mice, rabbits and horses. It is easily acquired and may attack the most healthy fowl. It is highly contagious.



Favus.

Illustration No. 33.

CAUSE—This growth may start in damp and ill-ventilated quarters, or it may be acquired by horses rubbing against infected trees or posts and communicating it to fowls by infection in the stables.

SYMPTOMS—Small white or gray spots on the comb, round or irregular, from the size of a pin-head to that of a dime. They extend in size and increase in numbers until nearly all the skin of the affected part is covered. They then form in a thin scale or crust on the surface of the skin. This crust thickens as the disease advances and becomes cup-shaped in form; that is, raised on the edges and depressed in the centers, and it will keep on until the deposit may be a quarter of an inch in thickness. While confined to the comb and head, Favus may be very successfully treated but, if allowed to run until

it begins to appear in the region of the vent, it is difficult to cure and birds may die of debility. In handling cases of genuine Favus, considerable care should be taken. While the fungus of Favus will not attack the healthy human skin, a slight crack, cut, or abrasion may become infected and turn into an ugly sore.

TREATMENT—The same treatment as in Chicken Pox, which Favus much resembles, will be found effective.

DROPSY

This is due to the accumulation of water or liquid in the abdominal cavity, and can be easily detected by the distention and by feeling the parts. The swelling will not be hard, but will easily yield to pressure, only to bulge out at another point. Affected fowls will lose appetite and have every symptom of general debility.

TREATMENT is very unprofitable and unsatisfactory.

FROSTED COMB

There is no remedy for a frosted comb if it is allowed to thaw and become black. It is therefore necessary that active treatment should be given as soon as noticed.

TREATMENT—Where snow can be obtained, apply the same with the hand, holding it to the comb until all frost has been extracted. Then anoint the comb with CONKEY'S HEALING SALVE, kneading it gently while applying. If carefully attended to, only the extreme tips of the comb need be lost and possibly you may be able to save the comb intact.

LEG WEAKNESS

This is usually caused by forcing the growth of the chick too rapidly, especially broilers, and not providing in the ration sufficient muscle-producing material. Another frequent cause is improper temperature in the brooder. Where there is too much bottom heat, this trouble will be encountered. This is also found in cases of metallic poisoning, birds losing entire control of their legs.

SYMPTOMS—The name is a good indication of the nature of the trouble. The fowl walks, or stands, with difficulty, and it may sit down while eating. This is sometimes taken for rheumatism, but in leg weakness the shank remains soft, while in rheumatism it dries up and becomes hard and contracted.

TREATMENT—If the cause is improper heat in the brooder, change it. If improper feeding, build up the general health by discontinuing heavy carbonaceous foods, such as cornmeal, bran, corn, etc., and give wheatbran, boiled beans, Canadian peas, together with meat meal and a goodly supply of alfalfa or clover meal in the mash. CONKEY'S POULTRY TONIC should be fed daily in mash, and rusty nails, or old iron, put in drinking water. Cut down the food supply, as over feeding is a most frequent cause. In case of poisoning, give milk, whites of eggs, or some good emulsion of cod liver oil, daily.

RHEUMATISM

This disease is much the same as in the human family and, while it is not fatal, it keeps the fowls in a totally unprofitable condition.

CAUSE—Rheumatism is occasioned by exposure to dampness, cold weather, or may be due to poorly constructed houses, improper care and feeding, etc.

SYMPTOMS—It is indicated by stiffness of the joints with more or less contraction of the muscles. Birds walk stiffly and lame, and lack energy and activity.

TREATMENT—Provide dry, bright quarters. A large amount of green food should be given, particularly alfalfa or clover, and very little meat or animal food should be fed. CONKEY'S RHEUMATIC REMEDY is very effective in relieving the fowls from this trouble and restoring them to health and usefulness.

APOPLEXY

Apoplexy is the result of a ruptured blood vessel of the brain, and the pressure of the blood that escapes therefrom.

CAUSE—It is caused by violent exertion, fright and by great straining while laying eggs—hens being sometimes found dead on the nests. They will occasionally be attacked while on the roost and drop off, or may suddenly fall and die when in the yard.

TREATMENT—Very little, if anything, can be done for the cure of this trouble. Preventive treatment is the best and, for this, see that fowls have plenty of exercise and a properly balanced ration in proper quantities. If you wish to attempt treatment, follow directions under "Congestion of the Brain."

CONGESTION OF THE BRAIN

Like apoplexy, this is not a common disease, and yet some poultrymen's birds suffer to quite an extent from it. Over-fat birds are the principal victims, though exposure to extremely hot rays of the sun will produce it. You will usually find intestinal worms present in affected birds.

SYMPTOMS—Giddiness, convulsions, and uncertainty in walking. The head is thrown backward and upward. Sometimes the bird will appear drowsy and stupefied.

TREATMENT—Provide a quiet, cool, and sanitary place for the bird. Apply very cold water or ice to the head, as it is important to reduce the temperature. Give a good dose of CONKEY'S POULTRY LAXATIVE and repeat if necessary. If you see evidence of intestinal worms treat as suggested under that heading.

FITS

The cause of this disease is more or less guess-work. It may be due to the pressure of worms in the intestines, or to pressure on the brain. The fowl will be subject to convulsions and unconsciousness, but may gradually recover and become apparently well.

TREATMENT—Little or nothing can be done unless the trouble is due to worms, in which case treat as indicated under that heading. If this does not cure, it is best to kill the fowl.

BUMBLE FOOT

This is no more or less than a stone bruise, and is generally caused by the fowl jumping from the roost on to some hard substance, thereby bruising the foot, although it may be caused in other ways.

SYMPTOMS—It is indicated by a hard, calloused substance on the bottom of the foot. This will become inflamed, causing much irritation and suffering. The fowl will favor this foot while walking or running and rests the foot while standing.

TREATMENT—If you notice it in its early stages, before pus has formed underneath the surface, the difficulty may be overcome by soaking the foot in warm water, paring off the hard substance, and painting it with tincture of iodine; but if pus has formed, then an incision should be made into the pus cavity with a sharp knife which has previously been dipped in a solution of NOX-I-CIDE and water. The hard substance should be pared off, the wound should be carefully washed with NOX-I-CIDE solution and, when dry, CONKEY'S HEALING POWDER should be

applied. The foot should then be so wrapped up with cotton cloth as to protect the wound and keep out all foreign matter. The pen should be covered with fresh, clean straw to prevent further injury. It is well to dress the wound once a day for several days, until it is fairly well healed. Study the original cause of this trouble and remedy it.

WIND PUFF

This appears mostly in little chicks. Its cause is an open question. It may be recognized by a puffing up of the skin, air being present underneath. Puncture the skin with a needle, or sharp, thin knife, and if this does not effect a cure, cut out a small piece of the skin and apply CONKEY'S HEALING POWDER to the surface.

CUTS, BRUISES, BURNS, ETC

Birds are liable to these accidents and it is well to attend to them immediately, as such wounds permit the entrance of bacteria to the system, which might prove fatal.

TREATMENT—Wash the affected part with a solution of CONKEY'S NOX-I-CIDE, two teaspoonfuls to a quart of warm water. Allow to dry and then apply CONKEY'S HEALING POWDER. Repeat every other day until cured. If you have not the NOX-I-CIDE, use Castile soap and warm water, applying CONKEY'S HEALING POWDER as above. You will not only prevent complications, but you will be surprised at the speedy recovery. Fowls should be separated and placed in coop containing litter of clean, dry straw, or similar material, so that foreign matter cannot enter into the sores.

BROKEN LEGS

Fractures sometimes occur even in the best-regulated poultry yards. If a little chick, or growing fowl, is the sufferer, it may be cured by bringing the broken parts together and winding around the leg a piece of clean cotton cloth. Use toothpicks, or larger pieces of wood, for splints or supports, and bandage these between the layers of cloth. A half dozen winding will be enough. Sew firmly to the bandage and allow them to remain until the leg is healed. It will take but a short time. It is not wise to try this with heavy fowls, or to treat broken bones other than those of the legs. If there is an abrasion of the surface, it would be well to wash it with a weak solution of CONKEY'S NOX-I-CIDE before dressing.

MOULTING

This is a natural function which should occur annually with every individual of the feathered species. It is a very trying period on the bird, and everything possible should be done to lessen the suffering and to shorten the period. Some advocate feeding nothing for a week or ten days, thus forcing the feathers to be dropped quickly; then, after the feathers have been dropped, to feed heavily, especially with animal foods, and those containing a high percentage of protein.

We think it best to underfeed slightly and to give simple foods. See that a liberal supply of green food, such as clover or alfalfa, is given. Give warm mashes in the morning, putting in a teaspoonful of CONKEY'S POULTRY TONIC to each quart and making the mash crumbly. Feed grain in the litter and make the fowls work. It will be found of great value to put in each mash a quantity of linseed meal. A plentiful supply of beef

scrap, or similar animal food, should be kept before the fowls, especially after the feathers have been dropped and new ones begin to come in. This is of the greatest importance. Keep the fowls free from lice and provide them with clean, dry, and sanitary quarters. Remember that the fowls' vitality is low at this period, and they are therefore peculiarly susceptible to disease. CONKEY'S POULTRY TONIC will keep up the strength and protect your flock.

Injurious Habits and Vices

EGG EATING

While this is more of a habit than a disease, it is often caused by a physical longing for oyster shell, or other lime-containing, shell-making material, and the absence of sufficient animal food in the diet. It is a most annoying and expensive habit and a difficult one to break. No sooner is there an egg laid than it is eagerly eaten, and one fowl quickly teaches the others until a number in the flock may be seen to rush for an egg as soon as it is deposited in the nest.

TREATMENT—One of the best methods is to make a small incision in either end of an egg and allow the contents to run out. Then make a mixture of soft soap and red pepper and refill the egg, closing the ends with court plaster and placing a number in the nests where the fowls can get at them. If these are eaten, fill others. It should not take long to sicken the fowls of the habit. If you will see that fowls are kept busy, that shell-making material is provided, such as oyster shell, mortar, bone etc., and that the nests are dark and well supplied with straw, you will have but little trouble from this cause. Remember to darken nests as much as practicable, have china nest eggs, and always collect freshly-laid eggs as quickly as possible. **BEAR IN MIND THAT THERE IS A DIFFERENCE BETWEEN SHELL-MAKING MATERIAL AND GRIT. THE FOWLS NEED BOTH AND NO ONE SUBSTANCE WILL ANSWER FOR BOTH PURPOSES.**

FEATHER EATING

This is a bad habit and is usually caused by a desire for meat or insect food, giving too much carbonaceous food, and a lack of exercise. Rarely does this habit develop among fowls that have free range, or that are fed balanced rations.

TREATMENT—Give the fowls more range if possible. Spade up the yard, bury the grain food in the loose earth and make the fowls work for it. When grain is fed in the evening, scatter the same in the litter. In winter feed grain in deep litter. Provide plenty of animal food. Never feed enough to make fowls lazy. Keep them busy—thinking of something else.

PREVENTION OF DISEASE

"An ounce of prevention is worth a pound of cure" is a saying that has proved its truth by years of demonstration. Most of the diseases of poultry can be traced to carelessness or to unsanitary and dirty quarters. While the housing, feeding, etc., must be given due attention, cleanliness is of paramount importance.

Disease germs are found wherever filth and dirt abound. Even though the droppings of the fowls are frequently removed, it is not all that should

be done to render the premises sanitary. A liquid disinfectant should always be kept on hand and, while absolutely effective, it must be perfectly harmless to the stock. This should be sprayed in and about the houses, pens, barns, etc., **AFTER A THOROUGH CLEANING HAS TAKEN PLACE.** A disinfectant is not a labor-saver for a lazy man, but a money-maker for the industrious and careful man. **IT IS NOT INTENDED TO COVER UP FILTH,** and will not take the place of the shovel and the hoe, but it will deodorize, kill the germs, and make everything sweet and wholesome after the filth has been removed.

The germ theory of disease has ceased to be a theory—it has proved itself to be a fact! Once the germ is introduced, disease will continue until the germs have been exterminated. Nothing equals a proper disinfectant. Realizing the necessity of an article that could be absolutely relied upon, and would be so inexpensive that the cost would cut but little figure, and that would be easy to apply, we have placed on the market **CONKEY'S NOX-I-CIDE**, a soluble deodorant and germ destroyer that is unequaled, anywhere, for strength and efficiency. It is of the greatest value for disinfecting poultry houses, runs, brooders, dog kennels, stables, cesspools, sinks, drains, slop-bowls, etc., and it fits into every department of daily life, even for household use and for the sick room. See description on another page, and send for special booklet on **CONKEY'S NOX-I-CIDE.**

Conkey's Poultry Remedies

The nature of poultry diseases has been our study for years, and our researches have been so thorough and practical, that we are the acknowledged authority along that line, while our remedies have become standard in every civilized country of the world. Many have put out "cure-alls," which they recommend alike for various classes of disease, while common sense prescribes a separate and specific remedy and treatment for each particular disease. We have not made our investigations on general lines, but have studied each disease by itself and in its proper relation to other diseases, and on this logical basis we have compounded our remedies. They do not work in a roundabout way, or in a general manner, but each finds its way immediately to the seat of trouble to reach the disease at once.

The greatest secret of curing disease is to apply the remedy in the earlier stages, and we have put up our remedies in such convenient form that they can be administered at once and with the least inconvenience. They are inexpensive and should be kept on hand, so that they can be used at the logical moment without waiting to send for them.

Because of the excellence of our remedies, we positively guarantee them, not only to be exactly as represented, and to do just what we claim for them, **BUT TO PLEASE YOU** and, if they fail to satisfy you, for any reason, we will refund your money cheerfully without the least argument or red tape.

FREE ADVICE

Many poultrymen have trouble recognizing certain diseases among their fowls. We have therefore opened **A BUREAU OF INFORMATION** which will furnish, **ABSOLUTELY FREE OF CHARGE**, advice regarding any sick fowls, with diagnosis and prescription and directions for general care and treatment. **WRITE TO US AT ANY TIME. YOUR WANTS WILL HAVE PROMPT ATTENTION AND THE BEST ADVICE THAT WE CAN OFFER**

COMMON MEASURES

- 50 drops equal 1 teaspoonful.
- 4 teaspoonfuls equal 1 tablespoonful.
- 8 teaspoonfuls equal 1 ounce
- 4 ounces equal 1 gill.
- 4 gills equal 1 pint.
- 2 pints equal 1 quart.
- 4 quarts equal 1 gallon.
- 3 gallons (about) equal 1 pailful.

How to Make a 1% Solution (1 Part to 100).

- ½ teaspoonful to 1 tumbler of water.
- 1 teaspoonful to 1 pint of water.
- 10 teaspoonfuls to 1 gallon of water.
- ½ tumbler to 1 pail of water.
- 1 tumbler to 6 gallons of water.
- 1 pint to 12 gallons of water.

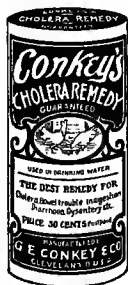
CONKEY'S ROUP REMEDY—This truly wonderful remedy is used in every civilized country of the world. The reason is that it cures. Until it was brought out Roup was considered incurable. Innumerable trials under every condition and in every climate prove that it will cure if given in anything like reasonable time. **THIS REMEDY SHOULD BE KEPT ON HAND** so that you do not have to wait and let your fowls die before applying it. Fowls are many times cured of Roup, even in more advanced stages, by dipping their heads according to special directions with package. If the remedy can be made to reach the membranes of head and throat passages, a cure can be effected, providing that the fowl has enough vitality left for any foundation. If attended to earlier, you avoid the trouble of individual treatment. **CONKEY'S ROUP REMEDY** is also excellent for Turkeys, and it is the greatest remedy known for **CANKER IN PIGEONS**. If your poultry supply dealer or druggist cannot supply you, send to us direct. Prices 50c and \$1.00, post paid.



CONKEY'S BRONCHITIS REMEDY—While Bronchitis has the general appearance of Roup, it is a distinct disease which requires a special remedy. It is an inflammation of the membranes of the nostrils and head passages. This remedy is a guaranteed specific for this dangerous ailment.

The careful discrimination between this disease and genuine Roup will save you many a fowl besides the useless trouble of treating for one disease when it is entirely another. Price 50c postpaid.

CONKEY'S CHOLERA REMEDY—When a fowl is attacked by diseases of the digestive organs, there is a loss of appetite and a greatly increased thirst; therefore we have put out this remedy in such a form that it must be given in the drinking water. As the fever creates a continuous and violent desire for water, the logic of this treatment can be



appreciated. Most of the so-called cholera remedies on the market are powders directed to be given in the food. Realizing the utter absurdity of trying to cure the fowl in that manner, owing to its abhorrence of food, we have put out CONKEY'S CHOLERA REMEDY in such a form that the fowl will take its own medicine. This preparation is entirely different from anything else ever put out, and can be absolutely relied upon as the most dependable Cholera Remedy made. It is tasteless and the bird will take it eagerly. It has a soothing, cooling effect on the hot and inflamed membranes and reduces the fever at once. For the treatment of Cholera, Indigestion, Bowel Trouble, Diarrhoea, and all kindred troubles in chicks or grown fowls, this remedy is excellent. CONKEY'S CHOLERA REMEDY is the great common-sense insurance

against a great variety of the troubles known to poultrymen. It should be kept on hand by everyone who raises little chicks, as it will be needed at once on appearance of disease. We guarantee it to satisfy you. Prices 25c and 50c postpaid.

CONKEY'S CHICKEN POX REMEDY—It is a reliable remedy for a disgusting and dangerous disease. Chicken pox is known in different localities by entirely different names, being called Pian, Sore-head, Warts, and Pigeon Pox. They are all the same contagious and loathsome disease and can be cured if taken in anything like proper time.

It is very important in treating this disease that absolute cleanliness should be considered and, while we sell CONKEY'S NOX-I-CIDE in separate packages and for a separate price, it should be considered an important part of the treatment for Chicken Pox. Unless you disinfect and clean house, this disease will not stay cured, but will spring up as fast as you can give a remedy.

The salve is applied to the warty growths according to directions, while the powder is given in the soft feed to drive the disease from the blood. You will find it a most thorough and efficient remedy and will never use another after a thorough knowledge of its easy curing of this annoying and nauseating disease which is often called the "Small Pox" of the poultry yard. Prices 50c or 55c, postpaid.



CONKEY'S LIMBER NECK REMEDY—Limber Neck may prove to be a very fatal disease, as it takes but a little time to terminate in death if a remedy is not at hand. We would certainly advise poultrymen to provide themselves with a package of CONKEY'S LIMBER NECK REMEDY at once, and not to wait until the disease is established and they learn its fatal

nature by costly experience. In the first place it is a very easy matter for the fowls to acquire this disease. It is a ptomaine poisoning which comes from the fowls eating putrefying flesh. A dead rat under the barn, or a dead fowl in some out-of-the-way corner, may cause this deadly ailment when you are not prepared to meet it and, before you can send and procure the remedy, many of your fowls are past saving. While Limber Neck is terribly fatal when no remedy is available, it is a very easy disease to master when CONKEY'S LIMBER NECK REMEDY is at hand, and we are receiving endorsements from many poultrymen who have cured their fowls, though they have believed this disease incurable in years past, because they did not have the remedy on hand. **DON'T LET IT BE TOO QUICK FOR YOU**, but insure your flocks by having it on your shelf. One day's treatment is usually sufficient to effect a complete cure. **CONKEY'S LIMBER NECK REMEDY** is a specific prescription put up to cure this one disease only. Do not be deceived by substitution of anything that is claimed to cure both this and other diseases. The age of cure-alls has passed and poultrymen are realizing that each disease should have its special remedy. Prices, 50c or 55c, postpaid.



CONKEY'S SCALY LEG REMEDY—Scaly Leg is a parasitic disease—the parasites burrowing under the scales of the legs and feet. It is not fatal, but it ruins the appearance of the birds and also saps their vitality and usefulness. This remedy which is a combination wash and ointment, comes in one package and is guaranteed to cure. It is also excellent as a dressing for the feet and legs of show birds, increasing their "point" value, and putting them in the very best possible condition as prize winners. Prices, 50c or 55c, postpaid.

CONKEY'S GAPE REMEDY—This is a reliable remedy for this deadly and annoying disease. Many people have experimented with irritating powders, fumes, smoke, etc., but have found them not only ineffectual, but positively dangerous to the fowls. They have also used extractors, horse-hairs, wires, etc., with no greater satisfaction.

We have finally perfected **CONKEY'S GAPE REMEDY** for the disease. This remedy tones up the system, giving nature a chance to right itself, and it is taken directly into the circulation and brought into contact with the worm, which is the only sure way of reaching and destroying it. Never be without this remedy and it will save your chicks. It is guaranteed to do the work and to satisfy YOU. Given occasionally in the feed, it will be found an excellent preventive. Prices 50c or 60c, postpaid.



While there are other terrible diseases of poultry, there are none which cause the poultryman more loss of young stock. We feel very much pleased to be able to offer you a remedy of great merit in **CONKEY'S GAPE REMEDY**, though it has entailed many years of study.

CONKEY'S WHITE DIARRHOEA REMEDY—This is one of the greatest chick life savers ever put out. Thousands and thousands of little chicks die each year from this fatal White Diarrhoea. The disease long baffled scientists and practical poultrymen alike. Many are still arguing as to just what causes this terrible pasty discharge which each year carries off from 60% to 75% of all chicks hatched. Whether it is the germs *Coccidium tenellum* or the Bacterium *Pullorum* scientists may argue, but we know this: **CONKEY'S WHITE DIARRHOEA REMEDY** in the drinking water kills the specific organism which causes the disease and saves the hatch. Use it as a preventative when hens are laying, because it will then prevent this deadly organism from developing in the egg. Wipe all eggs with 95% grain alcohol as directed and sterilize the incubator, brooder, etc., with **NOX-I-CIDE** solution, 1 part to 40 of water. If a hen is used for hatching make her take **CONKEY'S WHITE DIARRHOEA REMEDY** in the drinking water, so that there will be no chance of infection from her droppings. This is preventive treatment. But even after the disease gets a start, the chicks can be treated with this **WHITE DIARRHOEA REMEDY** in the drinking water, and even those badly gummed can be saved if you remove the accumulation that hardens around the vent. Of course do this carefully as directed on page 25.

Don't Despair. Save the little chicks. Get a package of **CONKEY'S WHITE DIARRHOEA REMEDY** to have on hand. It will save you a telegram and loss of chicks while waiting for the remedy to arrive. Price, 50c. postpaid.

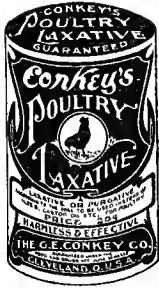
CONKEY'S POULTRY TONIC is a remedy especially valuable for fowls run down, off feed, recovering from disease, or during moulting season. It is also excellent for little chicks which do not seem to thrive. This is made to meet a growing demand for a tonic to be given in cases which are not thoroughly classified or understood. It is a general invigorator, quickly bringing birds to a normal condition. Prices, 25c or 30c, postpaid.



CONKEY'S BLACKHEAD REMEDY—A special remedy for Blackhead (*Enterohepatitis*). This has been used many times and in many places with most excellent results and is guaranteed to please you. Price 50c postpaid.

CONKEY'S RHEUMATIC REMEDY cures those lame and useless birds, tones the system, limbers up the joints, and gets them into profit paying condition in very short order. It is absolutely dependable if used according to directions. Prices, 50c, or 55c, postpaid.

CONKEY'S POULTRY WORM REMEDY—It gets rid of all the hurtful worms of poultry as well as the others, and leaves the fowl in a healthy, vigorous state. Price 50c postpaid.



CONKEY'S POULTRY LAXATIVE—A reliable laxative is often needed by itself, or in connection with another poultry remedy. Oils, salts, aloes, etc., are often harmful, but you will find CONKEY'S POULTRY LAXATIVE a harmless and dependable laxative or purgative according to the dose. It is compounded for poultry especially, is always of the same strength, and does its work thoroughly without depleting the energy or usefulness of the fowl. It is a great help to the man who makes money from poultry. Price, 25c postpaid.

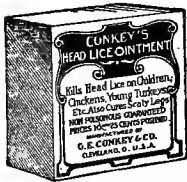
CONKEY'S HEALING SALVE—A scientifically prepared ointment possessing wonderful curative powers. It is antiseptic, kills all disease germs and, at the same time, heals all manner of wounds, abrasions, skin diseases, swellings, etc., among the fowls. Poultrymen should not

fail to keep this remedy on hand as it is also of the highest value to human beings, and we strongly recommend it for the following: wounds, cuts, sores and bruises, boils, old ulcers, scalds and burns, corns and bunions, pimples and eruptions, stings and bites, chapped hands and lips, salt rheum, ringworm, tetter, abscesses, scurvy, itch, felons, fistula, swellings, morbid growths, goitre, wens, inflammations of every character, and skin diseases generally. A WONDERFUL SALVE FOR YOU and your animals. DON'T BE WITHOUT IT! Prices, 25c and 50c, postpaid.

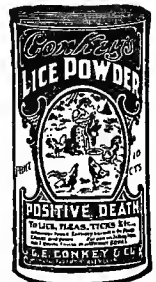


CONKEY'S HEAD LICE OINTMENT—Thousands of little chicks are killed each year by head lice—the largest blood-sucking louse that infests poultry. Head lice cause more loss of chicks than all other causes combined.

both directly and by weakening the chicks' health and affording opportunity for other troubles. CONKEY'S HEAD LICE OINTMENT is a carefully prepared, non-poisonous article with an agreeable odor, and is instant death to the murderous lice while absolutely harmless to the little chicks. It is unexcelled for killing lice on little children. There is no practical way of killing head lice except with an application of ointment, and this is the best manufactured. It will pay for itself in saving one chick. Prices, 1 oz. tin, 10c; 3 oz. tin, 25c, postpaid.



CONKEY'S LICE POWDER—For successfully killing body lice on fowls, nothing can equal a powder which is properly made. Beginning from 1907 we are putting out an entirely new lice powder which is, undoubtedly, the best ever discovered, and it is the result of our most careful study and research for many years. It is the strongest and most effective powder on the market, and is absolutely harmless to the fowls. It does not simply make the lice move, but it kills the lice the moment it is applied and, if you will dust a fowl thoroughly, stand it on a sheet of white paper, and ruffle its feathers, the lice may be found absolutely dead on the paper. Lice simply cannot exist where CONKEY'S LICE POWDER is properly used. Hens that spend the day picking and scratching, in a vain effort to rid themselves of parasites, cannot give you satisfactory returns and, because of their lack of vitality, are susceptible to all kinds of disease. CONKEY'S LICE POWDER is guaranteed to please you. It will kill lice on poultry.



cattle, horses, fleas on dogs, and vermin of all kinds. It will also kill bugs on cucumber, squash, and melon vines, slugs on rose bushes, etc. It is also an effective disinfectant and germ destroyer. Prices, 5 oz. pkg., 10c, or 15c postpaid; 15 oz. pkg., 25c, or 40c postpaid; 48 oz. pkg., 50c, expressage extra; 100 oz. pkg., \$1.00, expressage extra.



CONKEY'S LICE LIQUID—There are a great many poultrymen who do not seem to understand that the Mite requires entirely different treatment than the ordinary louse. There is no powder made that will entirely rid you of the Mite, and until you are rid of him he will multiply until every fowl you have is rendered useless or dies from exhaustion. In our opinion, the Mite will do more to reduce the profit of your fowls than all other varieties of vermin combined. **CONKEY'S LICE LIQUID** will immediately destroy these terrible pests, and will rid your poultry house of its greatest profit killer.

It can be painted on the roosts and applied to cracks and crevices, with a brush, full strength. Then mix 1 part Conkey's Lice Liquid with 25 to 50 parts water and spray the whole house thoroughly. Repeat in a week or 10 days. This makes an excellent disinfectant and germ destroyer and is cheap as it mixes with water. It renders the house pure and wholesome, and free from infection. It is the very best Mite liquid made and we guarantee it to do the work if the simple directions which come with the can are followed. Mites attack the fowls only when they are on the roosts; they cover their bodies, suck their blood, and hide by day in the roosts and walls. They do not remain on the bodies of the fowls. Prices of **CONKEY'S LICE LIQUID**, 1 quart 35c; 2 quarts, 60c; 1 gallon, \$1.00;

CONKEY'S FLEA SALVE—This is a specific exterminator for the Sticktight or Southern Flea. This troublesome parasite does not succumb to the ordinary lice killers, but this salve will rid the fowl of them in one, or at most, very few, applications. Prices, 25c, or 30c postpaid.

CONKEY'S LAYING TONIC—For the hen to lay the greatest number of eggs, her health must be kept in perfect condition and the egg-producing organs kept free from irritation and disease. There have been put upon the market many so-called egg producers which are irritants in themselves, while others are simply frauds, producing no effect whatever, and having no value except, perhaps, as foods for which you are paying ridiculous prices.

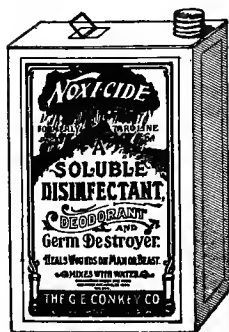
CONKEY'S LAYING TONIC is a result of years of careful study and experiment, and is a compound of vegetable extracts, herbs, roots, etc., so proportioned as to act gently on the egg-producing organs to remove any irregularity which may exist, and to invigorate and tone the system to a point only that is perfectly natural in the highest state of the vigor and health of the fowl. It is not a false stimulant to be followed by a corresponding depression and lack of vigor, but it is a corrective that can be absolutely relied



upon as in accord with scientific knowledge of fowls and their organs of reproduction. Any hen will lay eggs under normal conditions, but the domestic fowl is not in its natural habitat in the first place, and you demand eggs in the winter, in the second place, under conditions unknown to its wild and natural state. And still some thoughtless or ignorant people say to follow nature, when, if you take their advice, your fowls would not lay enough in a year to pay for their keeping for six months. Not only must that which is lost from its changed mode of living, but that which is demanded above its natural production, be made up in some way or another. It must be made up in scientific care and feeding, or its capacity is stunted instead of increased as we demand. A properly-made tonic, to stimulate egg production in a common sense manner, becomes a necessity. CONKEY'S LAYING TONIC has this object in view—to keep the bowels in good condition, to assist digestion and assimilation of egg-producing and strength making material, to give vigor to the fowls and to induce exercise, so as to tone the bird up generally to meet our unnatural demands. By doing this the fowl is kept at its best, and egg production can be depended upon. We are in the chicken business for money, and is it not better to keep a fowl at its maximum production for two years, and then renew the stock, than to keep a fowl for three, four, and five years at a lower rate of production?

CONKEY'S LAYING TONIC is not a food in itself and, in its use, you escape paying for bran and middlings which comprise the bulk of inferior "egg producers," and which you can supply for less money from your own bins. The ingredients used by us are reliable and effective. THERE IS NOT ONE PARTICLE OF FILLER IN THIS TONIC, and that is why we guarantee that if given according to directions, it will increase egg production. Don't confuse this with cheaper preparations, or with those which may have disappointed you. CONKEY'S LAYING TONIC will insure strength in cocks, more eggs and more fertile ones from hens, and rapid growth and vigorous life in little chicks. It is a big amount of value at small cost. CONKEY'S LAYING TONIC should never be fed alone; it is a strong medicine and must be mixed with food as directed. Prices, 1½ lb. pkg., 25c; 3¼ lb. pkg., 50c; 7 lb., \$1.00; 25 lb. pail, \$3.00. Expressage 25c extra on three smaller pkgs., 50c extra on 7 lb. pkg., and freight extra, 25c on pail.

CONKEY'S NOX-I-CIDE—(Formerly called Taroline). This is the poultryman's best friend. The majority of dangerous poultry diseases may be traced to the presence of germs which thrive in filth and uncleanness. CONKEY'S NOX-I-CIDE is a soluble disinfectant, deodorant and germ destroyer. It mixes with water, in correct proportion for using, one gallon making 101 gallons of ready-to-use liquid. It is the cheapest and most effective article of its kind ever put out. For poultry, it is an unexcelled article for cleaning and purifying the houses, runs, brooders, founts, and utensils. For household use it is of wonderful value in almost every department. It is unequalled for the sick room, and for purifying everything about the house, barns and outhouses.



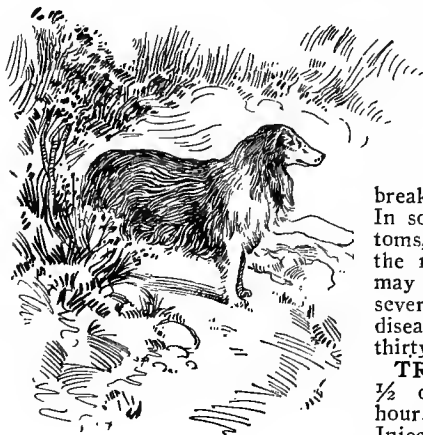
Our special booklet on NOX-I-CIDE will interest and surprise you. It contains a list of hundreds of items for which NOX-I-CIDE is especially adapted. It is excellent for all live stock and IS A HIGH-GRADE SHEEP DIP. It cures cuts, galls scratches, thrush, cracks, fissures, etc. It is an

ideal stable disinfectant, as it removes odors, prevents flies from breeding, and sweetens and purifies everything it touches. It is excellent for the kennels. It cures eczema and skin diseases generally even for humanity. It is even a most excellent shaving wash. There is hardly a place in all domestic economy where NOX-I-CIDE will ever be dispensed with after it has once been tried. GET A COPY OF OUR SPECIAL ILLUSTRATED NOX-I-CIDE BOOK-LET, for it will be found decidedly interesting and helpful. It is an education in what a good disinfectant and germ destroyer can do for stock and for humanity. Prices, 1 pint, 35c; 1 quart, 60c; 2 quarts, 90c; 1 gallon, \$1.50; 5 gallons, (jacketed) \$6.50; 10 gallons, (jacketed) \$11.50. Expressage extra.

CONKEY'S SULPHUR FUMIGATING CANDLES—They are easy to light, safe to use, and have protecting tin basins. They weigh $\frac{1}{4}$ pound each and burn for one hour. Sulphur fumes are deadly to all germ and insect life, and neutralize germ infection when the air is moist. To successfully utilize sulphur fumes, the air should be well steamed before lighting the candles. Sulphur fumes in a dry air do not do the work intended. In places where water cannot be boiled a very hot brick or stone in a pan of water will furnish the necessary steam. Then light the candles and close the place tightly for several hours. It may be necessary to use several of the candles at one time if the premises are large. Be careful to remove birds or pet animals. Prices, per box of 1 dozen packed neatly, \$1.00. Each 10c—3 for 25c. By mail, add 5c extra to cover postage. Expressage extra.

Dog Remedies

CONKEY'S DISTEMPER REMEDY—Distemper is caused by a germ and is contagious. A weakened condition favors the disease. Pure-bred puppies suffer greatly from it, although one attack usually gives immunity from a recurrence.



SYMPTOMS—The disease begins with a chill, followed by fever, the temperature going to 107 degrees. There is a discharge from the nose and eyes, sticking the lids together. Usually a rash breaks out on the inside of the thighs.

In some cases there are nervous symptoms, jerking of the head, twitching of the muscles, or moaning. The bowels may be constipated, or there may be a severe diarrhoea with fetid odor. The disease runs its course in from ten to thirty days.

TREATMENT—In early stages give $\frac{1}{2}$ ounce of Castor Oil every six hours until bowels move thoroughly. Injections of glycerine (per rectum) hasten laxative action. Give CONKEY'S DISTEMPER REMEDY according to directions.

The throat, nostrils, and eyes should be sprayed three times a day with CONKEY'S PAIN LOTION. The nose and eyes should be well washed with warm water often and greased with vaseline. The animal should be given beef tea, evaporated milk, fresh eggs, minced raw

beef and gruels. Allow cold, fresh water at all times. There are many complications that may occur with this disease, such as Pneumonia, Bronchitis, Inflammation of the Brain, and of the Spinal Cord, and Paralysis, usually of the hind quarters, and Abscesses are likely to form on some parts of the body. Another common sequel is Chorea or St. Vitus dance, as shown by a jerking of some parts of the body. All premises should be kept thoroughly disinfected with CONKEY'S NOX-I-CIDE according to directions on package. CONKEY'S DISTEMPER REMEDY is 50c postpaid.

NOTE: DISTEMPER IN CATS—Distemper in cats should receive the same treatment as for dogs, reducing the dose to $\frac{1}{4}$ amount, however.

CONKEY'S MANGE REMEDY—Like Distemper, Mange is a very infectious disease. It may be contracted from other dogs or from infected utensils, crates, etc. It is caused by a minute parasite which bores under the skin, rapidly multiplying in numbers, and causing the most intense itching. The animal bites and scratches itself continuously and loses flesh and strength. It first appears at the joints under the forelegs, on the forehead, chest, or root of the tail, and spreads until the animal becomes a loathsome object.

TREATMENT—First provide clean, dry quarters. No remedy can overcome this disease unless absolute cleanliness and sanitation are maintained. Quarters should be free from dampness and drafts and should be daily disinfected with CONKEY'S NOX-I-CIDE. Bedding should be burned daily and new, clean, dry straw provided. Wash the animal thoroughly in a solution of CONKEY'S NOX-I-CIDE, two tablespoonfuls to a quart of warm water according to directions. Apply CONKEY'S MANGE REMEDY according to directions on package. It will relieve the intense itching, cool the skin and destroy the germs. Tie the animal so that it cannot have access to dirt, but will stay on its clean straw. Where the dog may rub, disinfect the spot or object with a strong solution of CONKEY'S NOX-I-CIDE. To allay the fever, CONKEY'S DISTEMPER REMEDY should be given once or twice a day. This is not absolutely necessary, but it will hasten recovery. CONKEY'S MANGE REMEDY is guaranteed to please in cases of Mange on either dogs or cats, and is an excellent remedy for Eczema, Canker, Sore Ears, Ringworm, and all forms of parasitic skin diseases. Price 50c; 75c express paid.

CONKEY'S WORM DROPS—The dog flea is the common carrier of the larvae of the worms that often affect dogs. The symptoms of this trouble may be various, such as diarrhoea, loss of weight, restlessness, rubbing of hindquarters, muscles twitching, colic, fits, etc. Portions of worms are sometimes found in the excrement. CONKEY'S WORM DROPS have been positively proven a successful remedy. They will remove the worms without any injury to grown dogs or young puppies. This is a very common ailment and every dog owner should keep on hand a package of CONKEY'S WORM DROPS, ready for trouble. Price 50c, 65c express paid.

CONKEY'S DOG TONIC—For dogs that are run down, off feed, debilitated from any cause, or those recovering from disease. This tonic is giving satisfaction and can be depended on to bring the dog quickly to condition. Price, 50c, 65c express paid.

CONKEY'S STOCK REMEDIES

The whole subject of farm animals, their care in health and treatment when suffering from disease, is gone into very fully in Conkey's Stock Book, our practical handbook for livestock owners; 150 pages very fully illustrated, which can be had free through dealers or for 6c in stamps to cover cost of mailing.

Every Conkey Remedy is under the now world-known Conkey guarantee—IT MUST PLEASE YOU OR MONEY WILL BE REFUNDED.

There is no risk or uncertainty in Conkey treatments. We know every article put out can be depended on for the work we claim for it. But you Remedy thoroughly before allowing it to go under a Conkey label. Every have nothing to risk. In case of any dissatisfaction whatever, you have only to tell us and back will come your purchase money, no matter whether you are 5,000 miles away from us.

First in importance for every stock owner to consider is

CONKEY'S STOCK VIGOR

which is a general conditioner and tonic preparation, combining the beneficial qualities of a great number of reliable medicines endorsed by veterinarians and practical managers of livestock, and also useful because if given in time, its tonic alterative effect will often completely ward off serious disorders. Read carefully the following special statements regarding CONKEY'S STOCK VIGOR.



Under modern conditions where all live stock are pushed to the limit for healthy production, there are bound to come occasional setbacks, times when an animal is "off-feed," run down, or seems to have some general unthrifty condition.

Horses, cattle, sheep, and swine all are liable to get into this general rundown, dispirited condition. Sometimes the trouble is with worms, which multiply in stomach and intestine and sap the vitality of the animal itself; sometimes it is due to digestive strain, when the animal is under heavy production or working hard in a busy season. Sometimes it is because the body functions are upset, and do their work irregularly.

Sometimes the trouble is with the blood running sluggishly, feebly, so that it does not quickly enough repair the cellular waste. Animals sometimes cannot make use of the feed necessary for full production, they fail to thrive and the expensive feed is wasted.

It is for just such conditions that we prescribe our STOCK VIGOR, a tonic, which acts directly on various important organs, increasing the vital contractility, and acting especially on the walls of the blood vessels, toning them, bracing them so that they send the blood racing along, repairing exhausted tissues, flushing out waste matter, dead cells, etc., which in the sluggish system generate dangerous poisons.

Thus STOCK VIGOR cleans the blood. Clean blood works wonders always. Nature works what we call "miracles" if you can give her just clean blood to work with. STOCK VIGOR cleans the blood and therefore acts on every vital organ. Get them all to act, these various vital organs, and there is no longer any disease, for nature will keep the animal healthy if a sound working system is provided for her to use.

With clean blood and every body organ working as it should work, there is no health problem. It solves itself. Get the animal to this sound, healthy point and then drop STOCK VIGOR treatment, for nature will care for herself.

But keep this in mind: your animal is probably under heavy production, in the dairy, or fattening for beef, or pork or mutton, under heavy strain of feeding, etc. Nature cannot keep up the unnatural strain unless you help

her with a tonic occasionally, just such a tonic as CONKEY'S STOCK VIGOR actually is.

So, even in health, where animals are under heavy tax of production, watch for any little symptom of relaxing good condition and meet it promptly, effectively, with a little treatment with CONKEY'S STOCK VIGOR. See full directions. It is essential that all farm animals be treated with a vermifuge every once in a while, hence vermifuge properties have been combined with the tonic medicinal elements in Conkey's Stock Vigor.

A good plan is this: every so often, for safety sake, give a few doses of CONKEY'S STOCK VIGOR, as a tonic, alterative treatment. It will aid digestion, help the animal to assimilate its feed, increase the appetite. Digestion is the first essential. No matter how good the ration, how scientifically balanced, or how expensive the feed, IT'S WASTED if the animal does not digest it fully.

HOME-MADE STOCK SALT

All animals need salt. For best results, and safest use of it, salt should be where the farm animals can help themselves anytime. Then they will take just what they need, each animal being guided by instinct. But when salt is given only occasionally they are pretty sure to take more than is good for them, if they can get it; and scours, etc, will result. The following is a home-made medicinal Stock Salt that for beneficial results cannot be beaten by any formula, and for cheapness would put the commonly advertised stock salts far in the shade, costing less than 2½c per pound.

Take common barrel salt, which costs less than one-half cent per pound. Mix with one part CONKEY'S STOCK VIGOR to nine parts salt. For instance, 90 pounds salt, with 10 pounds CONKEY'S STOCK VIGOR (2 packages at \$1.00). Mix thoroughly, keep dry, and place where all animals can help themselves. This salt mixture will keep livestock free of worms, help digestion and appetite. It will increase the thriving, vigorous condition of all animals, whether horses, cattle, sheep, or swine. Let each animal help itself, then each will get enough and none of them will overeat. Sheep and swine will take less than horses or cattle. Swine will take least of all but swine should have salt where they can get at it. Salt for swine should never be mixed in their feed for there is danger of poisoning them if they should get too much of it.

SCIENTIFIC ENDORSEMENT—The use of a conditioner has general scientific endorsement. There has been much discussion of this important subject by scientific men. The principle of CONKEY'S STOCK VIGOR has never been objected to by any scientific authority and we wish to make it plain that our STOCK VIGOR is, all of it, genuine medicine. It is not a stock food. It is to be mixed in very small quantities with the feed as per plain directions. We do not charge you for cheap filler, but for actual drugs, scientifically compounded and ready to mix with your regular feed at regular feed prices. You pay us for drugs, specially compounded, just as you would pay for a druggist's prescription. Don't be fooled by "fillers". Buy "stock food" at every day home prices. CONKEY'S STOCK VIGOR is a medical prescription purely. Prices: 1 lb., 25c; 2¼ lbs., 50c; 5 lbs., \$1.00; 12 lb. pail, \$2.00; 25 lb. pail, \$3.50.

CONKEY'S HORSE TONIC

A pure, powerful vegetable tonic, absolutely harmless and very effective—
—one bottle is as good as six weeks on grass. After all debilitating diseases;

after foaling; in all cases of convalescence; and where the general building up of the system is essential, CONKEY'S HORSE TONIC is a most excellent investment. Price \$2.00.

CONKEY'S HEALING POWDER

This is THE WONDERFUL GALL REMEDY and is the most perfect healing agent known to medical and veterinary science. It is an astringent, antiseptic, and germicide, and is very simple to apply. For Galls, Sore Backs and Necks, Broken Knees, Proud Flesh, Running Sores, and Open Wounds. It is also excellent for Chafes, Cracked Heels, and where skin is unbroken. It is also a remarkable remedy for Thrush, Sore and Tender Mouths, Canker in dog's ears etc. It is the most scientific preparation ever discovered for use after surgical operations, such as Castrating and Dehorning. A wonderful preventive and cure for Hobbler Chafes, and excellent for all sores on human beings. Price 50c postpaid.

CONKEY'S COLIC REMEDY

A lightning relief from a sudden and dangerous ailment. It will cure an ordinary case of Colic in a few moments. It is not a drench with all its trouble to give; but just a few drops on the back of the tongue and the trouble is over. Can be administered while on the road. It is the simplest, surest, and best Colic remedy made. Price 50c, or 55c postpaid.

CONKEY'S HOOF REMEDY

The hoof is more than half the horse and, like the cylinder of an engine, if it is out of order you lose the value of the entire mechanism. Keep the feet in good shape and the main foundation to usefulness and profit is assured. The question of keeping the hoof in its natural state, under the adverse and alternate conditions of wet and dry footing is an important problem.

CONKEY'S HOOF REMEDY has a lanolin (wool-fat) base,—to which is added other valuable ingredients,—that keeps the hoof in perfect condition with the use of the ordinary well-fitting shoe, and without expensive and useless pads under the shoe that have become such a fad in late years. It is a sure preventive for Split Hoof, Quarter Crack, Seedy Toe, Contracted Heel, and hard, dry feet. In nine cases out of ten it does away with the necessity of the bar shoe or, in other words, it gives the horse a natural foot with the least liability of being affected by road conditions, weather conditions, and other causes of the hoof undergoing unnatural contraction and expansion. It is the changing of the hoof structure which causes nearly all the foot troubles known.



A farmer finds his horse lame on Monday morning and says, "I must have overworked him on Saturday." He is dead wrong! The fact is that the horse's feet got soaked on Saturday and dried out like an old boot over Sunday, leaving the laminae of the hoof dry and sensitive as a boil. That same thing causes nine-tenths of all the hoof ills. CONKEY'S HOOF REMEDY applied Saturday night, or every other day as it should be, would have resulted in that horse going out of the stable on Monday morning like a young colt. It would not only have kept the foot normally moist, but would have supplied the moisture had the horse not been out in the mud and wet of Saturday.

If you wish to use this as a hoof packing, mix it with bran to the proper consistency and it will be found the best article for the purpose. When so mixed with bran, it makes one of the best poultices known for any ailment requiring poulticing; such as incipient Poll Evil, Abscesses, Pricks, etc. It is an all-around excellent hoof preservative and is acknowledged to be the best by those using it.

Prices, 1 pint, 50c; 1 quart, 75c; 2 quarts, \$1.25; 1 gallon, \$2.00. Write for prices on larger quantities.

CONKEY'S HEAVE REMEDY

We are always ready to believe that a cough is a sign of throat or lung trouble; and so it is in nine cases out of ten; but about the most racking cough that a horse can have is Heaves and that arises from a fault of the digestive organs. The stomach and lungs of a horse are very closely connected by what is known as the Vagus Nerve, which extends from the stomach to the lungs, and this nerve carries the affection to the organs of respiration. The coughing of Heaves is merely a nervous symptom and the cause of the disease lies directly in the digestion. No permanent benefit can come from any treatment that does not correct the ailment in the stomach and digestive tract.

CONKEY'S HEAVE REMEDY is transforming former sceptics into believers that Heaves is not beyond the reach of proper remedies. This is a remedy to which you will pin your faith after a good thorough trial. If you have a heavy horse that you have not been able to bring back to a useful physical condition, give this remedy a trial by all means. We are proud of the results that this article has produced. You cannot lose for we will return your money should it not please you. This remedy is on a common-sense foundation and is absolutely scientific in its effect. Price \$1.00, or \$1.10 postpaid.

CONKEY'S WORM REMEDY

For horses, cattle, sheep or swine. Almost any vermifuge will drive the harmless worms, but what's the use? It is the larvae of the hurtful, ulcerating worms that sap the vigor of the animal and that should be expelled. This remedy accomplishes the purpose every time. It drives *all the worms* and leaves the animal free to thrive and enjoy the benefit of his food. This remedy saves annoyance and dissatisfaction. Strictly speaking, no worm is harmless. They are profit sappers every time. There's no use in feeding good feed to worms. Get after them every time with CONKEY'S WORM REMEDY,—the profit piler. Price 50c postpaid.

CONKEY'S FEVER REMEDY

CONKEY'S FEVER REMEDY is for Coughs, Colds, and for all diseases having fever or chills as a symptom. Influenza; Button Farcy or Pupura Hemorrhagica; Strangles or Distemper; Epizootic; Shipping Fever; and Pink Eye or Cellulitis. Many serious diseases such as Pneumonia, Bronchitis, Founder, and many other inflammatory diseases start simply with a cold. This remedy will often check a fever that would otherwise run into a dangerous disease. It should be always on hand ready for emergency. Price \$1.00 postpaid.

CONKEY'S ABSORBENT

This is our special preparation for Spavins, Ringbones, Sidebones, Splints, Curbs, and all exostosis or unnatural bone formations. It is also a wonderful

remedy for corns. This can be used as a blister if you so desire, but is intended principally as an absorbent as its name implies and will not blister when directions are followed closely and application made as directed for allaying fever and inflammation. The remedy will be absorbed, WITHOUT BLISTERING to the extent of taking the hair off, and will reach the seat of the trouble and perform its work without the unsightly surface wounds caused by violent blistering. For sprained tendons, sprained ligaments, and all abnormal bone formations, it is the best and surest remedy ever put upon the market. Price \$1.00.

CONKEY'S PAIN LOTION

Heat, redness and swelling offer the only evidence of injury that is beneath the skin except, perhaps, lameness. Often the only treatment necessary is to reduce the inflammation and stop the pain. CONKEY'S PAIN LOTION is a harmless, soothing antiphlogistic that brings immediate relief. Why use a mud antiphlogistic when this is easier of application, cheaper, maintains all the best remedial effects and acts at once? It is soothing to even the tender mucous membranes. On that account it has proved to be THE BEST EYE LOTION MADE. It is very penetrating and will find its way to hidden joints and tissues. For Sprains, Curbs, Swollen Knees, and hot and painful swellings, there is nothing to equal it. It is also excellent for rheumatism in man or beast, and will relieve a toothache or a headache almost instantly. It is excellent for a thousand ailments on your animals or on yourself. Price 50c.

CONKEY'S POLL EVIL REMEDY

For Poll Evil and all Fistulas. It is a very humane and effective treatment where most other remedies are barbarous in their application and result in spoiling the animal for future usefulness. Fistulas are not such difficult things to cure and this remedy overcomes them surely and quickly and brings the animal back to absolute health without ruining him for future service. It is an easy method of overcoming malignant and stubborn fistulous sores on any part of the animal. Price, \$2.00, or \$2.25 express prepaid.

CONKEY'S FLY KNOCKER

CONKEY'S FLY KNOCKER—Scientists have proved that many infectious and dangerous diseases are communicated by flies and other insects, which carry the germs and enable them to infect man, beast and fowl. Not only do they spread the germs, but they are a menace and an annoyance to the peace and health of your stock. From the time that the flies first put in an appearance in the spring, until late in the fall, they worry and torment the stock, keeping them irritated and causing them to lose flesh, which is replaced only after loss of time and much extra feeding.



LOSS

CONKEY'S FLY KNOCKER settles the fly problem. We know many worthless articles on the market which have done much to disgust the public and injure legitimate trade. We do not offer the cheapest article known, but the best. It will do just what we claim for it, AND WE GUARANTEE IT TO SATISFY YOU. Should it fail to do so, your money will be refunded.

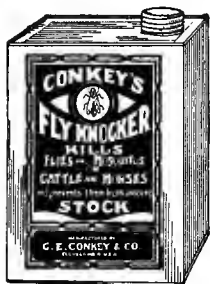
CONKEY'S FLY KNOCKER is sprayed directly on the animals, or can be applied with a cloth. It both

kills the flies and drives others away. It will rid your stables of flies and will give the tails a rest. It is positively harmless. It will not taint the milk. If used on stock in summer it will prevent lice and grub in the winter. Sprayed on your horse before going for a drive it will keep the flies away and prevent the fretting so wearing to a nervous animal. One ounce of liquid will spray two animals. Farmers, dairymen, stablemen and horse shoers find it too valuable ever to be without it if they once try it. Saves milk, saves flesh, saves spirit, saves time in handling stock. Stablemen find it saves shoes and floors also. The following letter (one of hundreds) comes from East Springfield, Pa.:



PROFIT

"The Fly Klocker we ordered of you came duly to hand and we find that it does all you claim for it. When we began the trial, our cows were covered with flies and their tails were lashing at a furious rate. When we finished spraying the last cow, all tails were as quiet as in mid-winter, having nothing to do. We find upon use, that the Klocker not only keeps the flies off the stock, but it drives them from the stable. We would not be without it for five times the cost. M. A. Harrington & Son."



The above is what everybody thinks after one thorough trial. It *solves the problem* and CONKEY'S FLY KNOCKER stands in a class by itself as a protection against the worst pest of the stable and dairy barn.

The camper could enjoy his outing were it not for the mosquitoes which make camp life miserable. CONKEY'S FLY KNOCKER will also settle the mosquito's bill. It is perfectly harmless, has a pungent odor, and it keeps every insect out of buzzing distance. Prices, 1 quart, 35c; 2 quarts, 60c; 1 gallon, \$1.00; 5 gallons, (jacketed) \$4.00 Expressage extra.

CONKEY'S DIP AND DISINFECTANT

This is put out as a special proposition to the Sheep Owner and the Farmer and we guarantee it to be a dependable and reliable article. IT IS THE BEST SHEEP DIP KNOWN for the cure of Scab and the extermination of Sheep Ticks. It is an excellent remedy for all skin diseases on man or beast; it will exterminate all manner of insects, slugs, ants, and bugs; and is a splendid healer for sores and wounds. It will kill all disease germs and prevent disease about the home, stables, or outhouses. IT IS SAFE, as it will not explode or even burn; is not poisonous when mixed for use, and is not corrosive. It will not curl, burn, or stain the wool when used as a dip, and is not nauseating to sheep or lambs if they swallow some of it while being dipped. Lambs can nurse ewes directly after dipping without harm. It is also very cheap, as 1 gallon mixes with 100 gallons of water to make the ready-to-use emulsion, making 101 gallons for all disinfecting purposes and for the price of 1 gallon of Dip and Disinfectant. There is none better for general all-around use. Prices, 2 quarts 75c; 1 gallon \$1.25. Expressage extra. Write for particulars on larger quantities.

CONKEY'S SPECIAL PRODUCTS

In addition to our regular line of remedies, we are manufacturing the following specialties, and they are each meeting with great public favor as being the very best in their respective classes. They are sold under our regular guarantee that they must please you, or your money will be returned without a question.

CONKEY'S PI-NO—A disinfectant for home use, properly called A BREATH FROM THE FRAGRANT PINES. A delightful article that contains all the qualities of the best disinfectants. Antiseptic, Parasiticide, Insecticide and Germicide. Fine in the bath and laundry. Makes an excellent gargle for Coughs, Colds and Sore Throat. Best face wash after shaving, etc., etc. PRICES—7 oz., 25c; 1 pint, 50c; 1 quart, 75c; ½ gallon, \$1.00; 1 gal., \$1.50; 5 gals., \$6.50.

CONKEY'S ANT CHASER—Especially made for driving ants from the lawn. It acts at the same time as a splendid fertilizer for the grass. Can also be used in the house where ants are encroaching. Not poisonous for animals or children. PRICE, 25c a box.

Sprayers

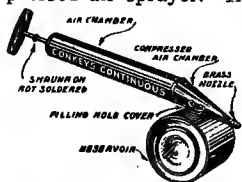
CONKEY'S PERFECT SPRAYER

A good, dependable sprayer will be found a necessity for using CONKEY'S NOX-ICIDE, LICE LIQUID, FLY KNOCKER, or any liquid disinfectant or insecticide. CONKEY'S PERFECT SPRAYER, while costing but very little, will be found very serviceable; will spray directly up, or in any direction, and we offer it as the best spray pump manufactured that can be sold for the same price. Price, 50c. each or 75c. postpaid.



CONKEY'S CONTINUOUS SPRAYER

This combines the points of the common hand sprayer and the compressed air sprayer. Instead of throwing a spray in spurts, it throws a continuous spray with little effort. It is serviceable in spraying all kinds of insecticides, Fly knockers, etc. for spraying plants and bushes, for use about poultry houses, stables, etc. We recommend this as one of the best sprayers that has ever been put on the market. It is unequalled because the liquids can be sprayed thoroughly over a surface with little effort and with saving of the liquid. The Sprayer comes in three styles with the following prices: Tin \$1.00—Galvanized \$1.25—Brass \$1.50. Add 25c for express charges.





CONKEY'S STOCK BOOK is actually a livestock "Demonstration Special," just as much so as the "Corn Trains" or the "Breakfast Bacon" Special.

Everybody realizes now that farm stock must be pushed to the limit of healthful production if the owner is to reap any benefit. The old days of easy management ("according to nature") are pretty well over. Feed is high and so is labor, and land is more and more expensive. Every animal on the farm or ranch must come up to a modern standard of return on the money invested. In other words, farming is business, not guesswork.

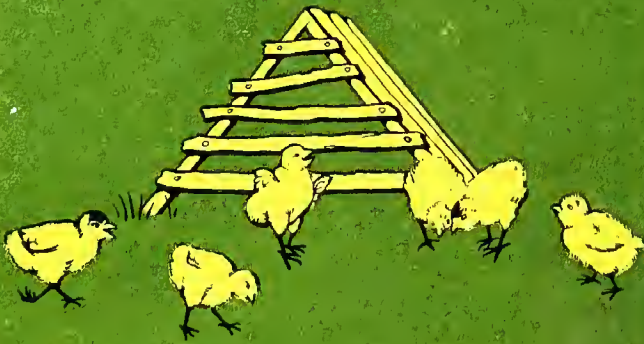
There is no question of the greater need of livestock farming,—the market is short of livestock products and there is a crying need for more farm animals to be raised economically right along with ordinary farm operations. Livestock equalizes farm labor and swings the balance for economical management. Livestock raising is in fact the soil's salvation.

Conkey's Stock Book covers the four farm animals—horses, cattle, sheep and swine—in a comprehensive, but absolutely practical way. There is no other one book that brings together the important facts you need to know on the subject of farm livestock. It is a big book, in point of what it brings together from guaranteed scientific and practical sources,—but a little book in that all this is boiled down, or rather creamed off the top of the whole big broad vital subject. What you get is the cream—the rich result of other men's experience.

There is no other one book which covers so completely the whole big subject—how to house, how to feed, what to expect from various breeds,—it tackles these problems—not simply shying at them, or skimming over.

There's a copy for you, if you want it. It is too valuable a book—and too expensive—to be handed out broadcast. But if you want a copy, just let your dealer know, or send us 6c stamps to cover postage. THE BOOK IS FREE. BUT, AS IT IS EXPENSIVE, PLEASE DO NOT ASK FOR A COPY UNLESS YOU ARE REALLY INTERESTED IN FARM LIVESTOCK.





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