

age

alert; deep below, heat of the vast engine. Our safety depends on vigilance, but we have become a habit. The upper deck and peer in. I cannot look long at the sight of that and vibrating hell.

These days of the week, the parallel wires, fast with two slack and piercing the ring like a white war, lives that magister. He fixes two with unseemly morning to learn that the steamship Minnesota, far below the horizon, is to be told that "established" with Cape, we stand above a pond, gazing out westward, sink, sink, sink, and are told as just emerged from of two boats.

It bells has struck the watching sailor has last note, I stumble the circle of light in cubby-house. I am bidding the ether are upon his ears, and long, and are talking with of sight, out of

eyes of heaven, the exposure, think of in sight? Upon the long eyes meet, tired of the wind, out call me to the red yards away, the ming seaway travel, wave to the exiles, watch the forlorn spot, more the sun goes

er. I awoke with at time in ten days I. There was no move- through the port- shore lights. We at the night and were

of movement, and squeals of tow- and the great Hud- ked shores of Man- New York hustles near air by ceaseless nity Church, that w dwarfed to insig-

I stepped ashore, at the speech of this new World was my own.—C. Lewis

RAILWAY CARS

the great improve- India as an ex- interesting because prevailing. Coach- broad and narrow- Burma at present annum, of which by the third-class first-class fare per journey, continues to 1,500 miles, and run 200,000 miles shop repairs. Tem- ing. Fahr. under the best through winter 5 per cent. Sandstorms encountered on a about 1900 four- on frontier lines, wards increasing is necessitated, the k now, becoming adds Engineering, seat has in sixty 0.247 ton, or 32 and to 0.31, or 77 to which increase lavatory fittings, approximately 12 per ing capacity per withstanding the ratories, remained; the gross load an doubled. The has increased by feet of space per

n ribbons, formed dding at Walton- postmistress and thirty years' court- the church the an- escaped among the eered through the



## WITH THE POULTRYMAN

The Dangers of Breeding From Diseased Fowls.



THE best thing that can possibly happen to a really seriously diseased fowl is a prompt extension of the neck. It may require a little courage at the moment, but in the end it will save much trouble and worry, and prove a decidedly remunerative proceeding; and if this course is promptly followed with the first case that appears in a poultry-breeder's yard, an epidemic will probably be prevented, and the great danger of breeding diseased offspring will be thus averted. With a sick mongrel it is quite likely that prompt execution may be practised without much hesitation; but what happens in the case of the highly-bred exhibition or pure bred specimen, or in the case of the pedigree layer with a champion trap-nest record, plus possibly a prominent position in one of the laying competitions? Such a bird is in its owner's opinion far too valuable to be thus peremptorily disposed of just because it happens to have contracted roup or developed symptoms of liver disease or tuberculosis, or any of the many other hereditary diseases to which poultry flesh is heir. So he coddles it up, doctors it with various nostrums, sometimes suitable, oftentimes quite the reverse, until in the end, after a vast amount of trouble, he is perhaps successful in so far patching up the patient that the outward and visible signs of the inward disease are dispelled and the bird once again presents the appearance of a healthy specimen, but such appearances are in the majority of cases delusive. A fowl that has once been seriously affected is rarely, if ever, thoroughly and safely cured, and at any time it is liable under encouraging conditions such as unfavorable weather, to break down again. But all this is not considered; the patient is "cured" (?), and if an exhibition specimen it is again allowed to follow its show career, which further strains and weakens its already delicate constitution, and finally, whether a show bird or a utility laying sprinter, it goes into the breeding pen, where it will possibly more or less, according to the disease, contaminate the rest of the inmates, and almost certainly reproduce in its offspring the same undesirable troubles from which it has itself been a sufferer. To the thus doctoring up of a show specimen, there is not much to be said. The trouble may be worth the results to the owner, but under no circumstances should such a bird be bred from. The disease is not only liable to again crop up at all times and seasons when least expected, and thus upset breeding arrangements, but will also most surely bring trouble a hundredfold in the succeeding generations, whilst if eggs for hatching are sold from such specimens, they may prove the means of spreading the disease all over the country. Ask a farmer if he would knowingly breed from a glandered horse or a tuberculous cow, and yet such a breeding would only be on a par with breeding from a fowl of either sex that has been affected with any of the numerous contagious and hereditary diseases to which poultry are liable, and, possibly more than any other animals, inclined to transmit to their young, and which, when they do not appear in the next, frequently crop out in succeeding generations years afterwards. Cures like that above referred to are usually superficial; the taint of the disease in the majority of cases remains in the blood—lurking within ready to break out again on slight provocation, or to be transmitted to the offspring. The breeder of fowls who desires to produce strong, healthy, vigorous stock should exercise the greatest possible care in excluding from his breeding pen every animal that has at any time shown the slightest sign of disease. It may seem hard at the time to kill or ostracise otherwise valuable specimens, but it will pay many times over in the end, and if greater care in this respect were generally practised, we should hear much less of poultry epidemics and failures in poultry-keeping, the length of the post-mortem columns of the various poultry organs would be considerably reduced, and poultry-keeping of all phases would be much more remunerative. It is the delicate, unhealthy specimen that causes so much care and trouble, and in the end picks the pocket of its breeder.—Midlander.

### Insect Pests and Diseases.

In a series of health hints to the poultry-keeper Dr. Cary of the Alabama college station says:

Chicken mites are the most common pests in nests and houses. Cleanliness is the best means of preventing their multiplication. They develop best in filthy nests and in cracks and under boards in chicken houses. Clean the house (move it if portable) and then spray the house with kerosene oil emulsion. If possible apply tar in cracks and under roosting

boards and this will catch many which escape the spray. Clean and spray the infested house and coops once per week and dip the infested chicken in weak kerosene solution. Never dip chickens in a poorly mixed kerosene solution. It will blister the skin if the kerosene is not thoroughly emulsified. Copper sulphate solution, if applied hot (to roosts, walls, etc.), will kill mites. It should not be applied on the chickens.

The following directions are given for the preparation of the kerosene emulsion and copper sulphate solution needed for the treatment recommended.

**Kerosene emulsion.**—Dissolve one-half pound of hard soap in one gallon of hot water, add two gallons of kerosene and stir or churn until a milky mixture (or emulsion) is formed, now add eight to ten gallons of water, stir or mix with a spray pump, or keep the first emulsion of soap, water and kerosene and use as much of it as you desire after diluting with eight to ten parts of water.

**Copper sulphate solution.**—Dissolve four to six pounds of copper sulphate (bluestone) in twenty to fifty gallons of water. Spray this over dusted or cleaned floors, walls, nests, or other places. When dry or the next day, whitewash with spray or brush. If applied hot this copper sulphate solution will kill mites.

Whitewash is used to a large extent in connection with poultry houses, and is an efficient means of filling small cracks and making smooth surfaces which can not harbor vermin. An excellent wash for this purpose is the so-called government whitewash, which is prepared as follows:

Half a bushel of unslacked lime, slacked with warm water. Cover it during the process to keep the steam. Strain the liquid through a fine sieve or strainer. Add a peck of salt previously well dissolved in warm water, three pounds of ground rice boiled to a thin paste, and stir in boiling hot a half pound of powdered Spanish whitening (plaster of Paris) and a pound of glue which has been previously dissolved over a slow fire, and add five gallons of hot water to the mixture. Stir well and let stand for a few days. Cover up from dirt. It should be put on hot. One pint of the mixture will cover a square yard if properly applied. Small brushes are best. There is nothing that compares with it for outside or inside work, and it retains its brilliancy for many years. Coloring may be put into it and made of any shade. Spanish brown, yellow or common clay. To it may be added two pints of carbolic acid, which will make it a disinfectant.

### How to Succeed With the Incubator

The supreme advantage of an incubator is that it is ready for use at any time. Properly handled, it will hatch as strong and vigorous chicks as will the hen, and they can be hatched much cheaper, too. An incubator that will hold as many eggs as can be covered by ten to thirty hens, can be given all the necessary attention in from ten to fifteen minutes a day, and a hatch may be run off with approximately five gallons of oil. That number of hens would require several times as much care and attention, and their feed would cost much more than the oil.

February is not too early to start a hatch of the larger breeds, and April or May will do very well for the Leghorns and similar breeds. Broilers will be high-priced when these early-hatched chicks are the proper size, and fresh eggs will also be high in price and in great demand when the pullets, if properly fed and handled, are ready to lay. Do not wait until the chicks begin to hatch before looking for a brooder, but get your brooder ready at the same time.

There are both "hot air" and "hot water" machines, and excellent results have been secured from both, but personally I prefer the hot air machine because it has seemed to be more easily handled. The hot water machines will hold the heat longer, however, if the source of heat dies out.

The best place to operate in is an incubator cellar, which, if properly constructed, is partially underground, with non-conducting walls, an air space between roof and ceiling, darkened windows and a ventilating system for keeping the air pure. This, however, is usually beyond the means of the man with one or two incubators, whose nearest approach to this is an airy house cellar. The air must be pure to secure results, and the temperature kept as even as possible. To say that an incubator is a dangerous thing to have around is an untruth—there is really no more danger from a properly operated incubator than there is from an ordinary kerosene lamp, and not half so much as from some oil stoves.

As no two machines are exactly alike, it would be folly to endeavor to give explicit directions which would answer the purpose for one and all. Each manufacturer knows just how his machine is to be operated and furnishes the necessary instructions. One person only should have the entire care of the incubator, and the manufacturer's directions ought to be closely followed.

Above all things, don't "fuss" with your machine. After setting it up and making sure that it stands perfectly level, light the lamp, and without any eggs, ascertain positively that it is working properly. Use the best oil obtainable; gas, if it is available, will save much labor in filling and caring for the lamps. There

are many incubator catalogues which are full of information about hatching and raising chickens, which may be had upon request.

If the temperature drops many degrees when you put in a lot of fresh eggs, don't change the regulator, as it will become normal in a few hours. After a couple of days, turn the eggs twice daily, cooling them for a few minutes during the latter part of the hatch. If light shelled, test the eggs for fertility after five days in the machine; if dark shelled, after eight days. This must be done when they are turned and aired. Infertile eggs (which are to be removed) are perfectly clear, but in the others the chicks can be seen developing. Egg testers are furnished with some machines, but a small one suitable for all purposes may be purchased for twenty-five cents. If you do not have this, a newspaper may be rolled into a tube, and with the egg at one end held toward a lamp, the testing may be done in a dark room. I have also tested many eggs with such a tube by looking through them toward the sun.

Fresh laid eggs, of course, are the best for hatching, but if it is necessary to keep them any length of time, they should be stored in a cool place and turned frequently. In no case should duck and hen eggs be placed together, better results being usually obtained by placing in the incubator eggs of only one breed. At the end of the nineteenth day, turn the eggs for the last time and close the machine until the hatch is completed. If the proper temperature has been maintained, the eggs will begin to pipp at the end of the twentieth day and the chicks should all be out within twenty-four hours. Ducks will be a little slower in coming out on account of the toughness of the shell.

I have said nothing about the proper temperature, because so much depends upon the position of the thermometer. About 103 degrees Fahrenheit is usually right, and although some machines require the use of moisture during the hatch, directions to this effect will accompany the incubator. The tray with the shells and unhatched eggs is removed as soon as the hatch is completed, but the chicks may remain a day longer. They will require no feeding for twenty-four or thirty-six hours after hatching.

### How to Make Hens Lay

It is a mistaken idea to expect eggs if proper care is not given the hens. Any person thinking he will get eggs in winter by giving a couple of corn feedings a day will be very much disappointed. Feed only the best materials, avoid tainted meat and sloppy food, and always give plenty of grit, charcoal and oyster shells for the hens to pick at.

Last spring, I hatched out fifty-three chicks, all pure bred. They were Single Comb White Orpingtons, Barred Plymouth Rocks and Buff Cochins. My pet choice was the Orpingtons, so I disposed of the other breeds. These Orpingtons were hatched the 23rd day of April, 1906, and the first one commenced to lay the first week in October. I sold all but eleven pullets, three cockerels, and one cock. I only let one cockerel or the cock run with them at once, keeping the others penned up. I only commenced to keep a record since January 1st, 1907, but they averaged about the same during the previous month. During January, from the 1st to 31st, these pullets laid fourteen and one-half dozen eggs, which I think is very good.

I feed a hot mash in the morning consisting of one-third bran, two-thirds crushed corn and crushed oats. To this is added one-sixth part of clover. These ingredients are mixed thoroughly together in a dry state, afterwards adding boiling water so as to make a ball, still keeping the food in a dry state, so that when squeezed in the hand, it is not sticky but readily crumbles when dropped on the ground in the shed.

Their midday meal consists of an even mixture of wheat, buckwheat, oats, sunflower seeds, barley, and Kaffir corn. This is thrown amongst short litter sweepings from the hay loft, and at night, before going to roost, they are fed all the whole corn they care to eat. I also feed them fresh meat scraps, ground through the mincer, every other day, at the same time grinding some stale bread crusts. After mincing a few handfuls of bran, using bran in proportion to meat, I find the bran acts as a separator for the meat and after thoroughly mixing the meat will resemble pills about as large as a string bean. I also suspend two cabbage heads every week for them to peck at. During very severe weather the drinking water is warmed. It is surprising how much water they will drink when the chill is taken off.

The house is open to all weathers and over the door, which faces southeast, are two holes about six inches square for ventilation. These are never covered up even when the temperature is below zero. The house is 8 x 8 ft. and nine feet high in the front and seven in the back. The hens have a large open shed facing southeast, in which to exercise, and in fair weather they have free range.—Chas. H. Rice.

### Late-hatched Chicks

I am not a very strong believer in the profitability of late-hatched chicks. My experience has been that, unless the season has been unusually late there is little profit in chicks that are hatched out after the middle of June. I make it an invariable rule not to set any eggs

after the first of this month, except a few intended to furnish late fries for home use.

From now on, until after the completion of the molt the old breeding birds will all be in a more or less debilitated, run-down condition, as a natural consequence, summer eggs seldom hatch well, nor are the chicks strong and vigorous that do happen to hatch. Lice are most troublesome at this time of year, and they, together with the excessively hot weather, make life anything but pleasant and easy for the little fellows. Those chicks that are so fortunate as to escape being stunted by these two causes, have not a sufficient length of time in which to mature before the arrival of winter, and when cold weather sets in, an end is put to their development and they never become anything more than runts.

When I first started with standard-bred poultry I was of course, desirous of making the start as cheaply as possible, and so the offers of the various fanciers to furnish eggs from their best matings at half price after July 1st, were very attractive to me. I tried to get a good start with a fancy stock in this way, for two seasons, but finally had to give it up as being beyond my powers. While I could nearly always succeed in raising a few chicks, cold weather always set in before they were anywhere near matured, and put an end to their growth. However, just because they had "blood" behind them, I was so foolish as to carry over during the winter for two successive years, a greater or less number of badly under-sized pullets, using them in my breeding pens. This soon began to have a disastrous effect upon the size and stamina of the entire flock.

In conclusion, no matter from what viewpoint one looks at the matter, late-hatched chicks are a losing proposition, unless one hatches out only just enough to supply his own family table during the fall and early winter with young fried chicken, and for this purpose a brood or two are very desirable. As a matter of fact, I make it a point to have a few nice fries on hand at all times of the year.

## AROUND THE FARM

### Feeding the Cow



THIS subject is one about which a great deal has been written, yet there is much that is unsaid, as there is something being learned every day about the feeding of farm animals.

Theories of a decade ago have been shattered and new ones built up from the fragments. A theory, to be of any value, must be built up on facts. It must work out in practice. That is where many a theory has met its doom. The latest scientific work of men who make a specialty of feeding have been the combination of science and practice. The result of such work has great value. The experiments of Prof. Haacker are of value because they are carried on with a combination of scientific theory and practical work. However, I think that the problem is far from being solved. The future holds for us the untangling of many mysteries which puzzle us now.

There is one thing that we all should do. That is to theorize a little ourselves. We should never feed a cow without having some idea as to what will become of the feed; if its quality and quantity are such that the best results as to economy and yield are obtained.

It has been demonstrated by years of experience that a cow will use only a certain amount of feed for milk production.

After you have given a cow enough food to maintain her body and manufacture her products, the surplus is used to produce fat or is thrown off. Yet we see a farmer fill his cow's mangers full of overflowing with roughage, satisfied in himself that "the more feed, the more milk." This is a great mistake. Again we see a man give a cow, that does not yield much milk, more feed than the rest, "to get her up in milk," he says. It is a good thing, a fine thing to feed our cows plenty. Too many are underfed. But I honestly think a man does not underfeed his cows through ignorance. It is through lack of feed.

But many a man wastes tons of feed each year through ignorance of the laws of feeding. The first thing is to learn your herd. Know which cow eats lots of hay and which eats less. Thus grain may be saved. Feed your cows about one pound to two, three or four pounds of milk, yielded according to the richness of milk and condition of cow. Never feed whole grain to a cow. Much is wasted and it is cheaper to grind feed by steam than by cow force. Always feed in a perfectly clean, sweet manger, which should be shallow and easily swept. If a cow refuses her feed, remove it right away. Her roughage should be fed in a clean manger and no more than the cow will eat up clean, from two to six pounds per feed.

I will say again: Study your cows. They will teach you more than lots of books. Read dairy and stock papers and books. Talk to scientific men and your mind will broaden. You will find new interest in your cow. As a parting shot I will say, give her salt, warm water and kind words; feed her well and she will love you and be your best friend, showing it by substantial returns in the milk pail.—Exchange.

It pays to make cows comfortable at all times.

### The Care of Puppies.

Perhaps there is nothing that appeals so generally to all mankind, young or old, as a happy, healthy little pup. Have you ever seen one go unnoticed on the street? Everyone from the child who is half afraid, to the old lady who is trying to keep the puppy's muddy feet off her gown—everyone gives him an indulgent smile and sometimes a pat or two. There is nothing more trustful, more "happy-go-lucky," than a normal pup, but there is nothing so pathetic as a sick one.

There are a great many different ways of bringing up a pup. Necessarily, a prospective show dog could not be let loose to roam the streets, neither should any puppy unless his home is on a comparatively quiet thoroughfare. Certain toy breeds, such as the black-and-tan, are too delicate to be kept outdoors except in the warmest weather. The following suggestions, however, apply to the average canine—the terriers, fox, bull, Boston, Irish, Airedale; and other dogs like the St. Bernard, setter and cocker spaniel.

The three things most essential to a pup's welfare are exercise, fresh drinking water and the right sort of food. By exercise I do not mean that a young dog should be taken on long walks, for he naturally exercises himself to a great extent. But he should be kept on the go, if strong, straight legs are desired, not to mention the importance that air and sunlight have on the health. Give him an outdoor kennel—a box boarded on all sides—and when the little fellow has played till he is tired, he will seek this shelter. The box should be placed on a slightly elevated platform and should face the south. It should have an opening a few inches from the floor, and a generous bedding of straw, or pine shavings, if the fleas become troublesome. When the pup is large, care must be taken that his kennel is not too small. If this is the case he will get into the habit of crouching, which will give him a peculiar deformed look. If he is given a half hour's walk every day this is quite enough for regular exercise, and on the hot summer days it is well to take him out very early, or after sundown. Of course, in the extremely cold weather, when the pup seems more inclined to cuddle in his box than play, it would be wise to take him out for a scamper as often as possible, and if he still seems to feel the cold he had better be removed to his night quarters. When driving or motoring he should wear a sweater.

Do not forget that a dog needs fresh water and plenty of it. Water is one of nature's medicines and is absolutely necessary to a dog. Keep a clean basin filled with it so that at all times the puppy can drink as much as he likes.

Concerning the right kind of food for a young dog, there is a great divergence of opinion. Some advocate quite a bit of meat, others none at all. The happy medium is a very safe course to pursue. Take a puppy when he is, say, two months old. He will need four meals a day. One should be given the first thing in the morning, the next at noon, one during the afternoon, and the last late in the evening. The last meal is the most important, as it is necessary for a puppy to have a full stomach so that he will not become chilled through the night. This meal should also be the heartiest and consist of meat, stale bread, vegetables, and enough soup to moisten it, but not to make it too mushy. If he appears bloated after eating, he has either had too much, or he is infested with worms and is in need of a vermifuge.

For the first meal in the morning, a little cereal, such as oatmeal, shredded wheat or rice, with some boiled milk, may be given. The noon fare may consist of dry dog biscuit, and the afternoon meal may be made of broth thickened with rice, cornbread, or any scraps. Avoid all sweets, starchy foods usually, and never give a puppy hot, greasy, rich, or highly seasoned food.

If he seems deficient in bone, put an even teaspoonful of precipitated phosphate of lime in the food three times a day.

When you go out in a storm, unless you intend to be gone a long time, do not hesitate to take the pup with you. On returning, however, he should be thoroughly dried and given something a little warm to drink.

Young dogs are very liable to fits from worms, over-feeding and various other causes. Do not let a puppy in a fit run around; they cannot see where they are going, and often bump into things, sustaining serious injuries.

Perhaps distemper is the most dreaded disease that may attack a dog. It usually is ushered in by all the symptoms of a head cold and requires intelligent and unremitting care. Even when it is apparently all over, the dog is sometimes taken with some incurable disease such as St. Vitus's dance (called chorea), blindness, or paralysis.

Although in many cases the same medicines are good for man and beast, this is not always a safe rule to follow. Some drugs which are quite harmless to people are deadly to dogs—while laudanum, for instance, so poisonous to man, may be given in large quantities to a very young puppy.