

Poultry on the Farm.

BY MRS. IDA E. TILSON, WEST SALEM, WIS.

The New York Agricultural Experiment Station has tried a series of experiments which seemingly prove that hens lay better if allowed salt, but should the salt be in excess are then more liable to diarrhoea. Probably salt, sulphur, spices and likewise puddings can all be placed on the list of articles which are valuable but need wise handling. "Let your moderation be known in all things," even when feeding hens. One half teaspoon of salt for each quart of meal I have found a safe rule. As cannot be too often repeated, this salt, well pulverized, is mixed thoroughly through the dry meal before the latter is scalded. Four quarts of vegetables, my usual amount for a meal, have a level teaspoon salt put in the water where they are to cook. I give fowls much less sulphur than formerly, and never have a case of leg weakness among them now. But burning feathers and stale eggs show considerable sulphur is somehow found and appropriated by biddy. A tablespoon to a gallon of soft food, given poultry about twice in the spring, when beginning their active campaign, and the same at moulting time, will be all right with weather really dry, warm and sunny. Sulphur, while an enemy to every disease germ, opens pores and is unsuitable for damp weather. Mustard is my favorite condiment, though pepper and ginger have a place. We are told fowls in their native Asiatic jungles search for and can find many aromatic seeds and buds. Spices, however, are not food but stimulus. Fowls really have no "patent insides" of India rubber or sheet iron, but are "quite like folks," and need just enough spice to warm and quicken, but not to burn and destroy. Once, or at most twice a week in winter, is the extent of my use. Table scraps give a very welcome flavor to puddings, which, the more bewildering their mixture, the more like a Spanish "olla podrida" they are, find proportionally a greater relish. I have seen oil meal recommended in the proportion of one-third to two-thirds other meals, but so rich and laxative is it, I could never use that amount with my hens. A tablespoon or so to a quart of meal makes a good daily digester, very soothing for bowels. Animal fats, ham or mutton drippings will do the same. A poultry writer lately condemned bran for puddings, because so laxative and irritating, and said he now used shorts instead, but this latter, in turn, is sticky and clogging. My opinion is both are good, but neither should constitute more than one third of any pudding. Most medicines prescribed for hens are designed to be mingled with their drinking water, where soon revealed by taste. Powders mixed in puddings are far less readily detected. When, however, water must be medicated, do not fill dishes very full, but take small measure of both water and medicine, so little or none shall be left at night unused and wasted. As a general rule, do not doctor the well because some are ill. Literally, "let well enough alone." If sick birds cannot respond quickly to simple remedies they are a source of danger for your flock, and perhaps for yourselves, hence, like any other nuisance, should be removed. When appetites flag or hens grow dainty, cut down rations two or three days, and build their frame and fame on variety of food, as fowls like almost everything, but nothing long at a time. Charcoal, while somewhat clogging, is an excellent disinfectant and corrector of sour bowels. Its virtues are greatest when new. It may be powdered and added to puddings, or freshly broken in bits given clear a little at a time. My hens additionally eat quantities of wood and coal ashes that are used as fresh as consistent with safety from fire. I not only carefully examine these ashes, but always give them mornings, so I can have all day in which to discover danger. Charred corn, though very efficient, is not, therefore, as some write, the only relished form of charcoal. Scientists now seem agreed that bone meal and oyster shells are of little value as far as furnishing egg-shell material is concerned, which latter comes from the soluble salts of lime found in food, especially in grass and vegetables, but a

form of grit, so beloved by biddies, as are bones and shells, gives them that contented mind which is said to be "a continual feast."

M. Provost du Handray, of France, believing fowls have a real language which he wishes to learn, has kept a phonograph among his poultry. He would feed some, letting others fast and complain of hunger, and by various agitations has thus caused them to utter a great variety of sounds. I fear their language when understood will too often tell in "mournful numbers" of experiments suffered, of caprices endured, and appreciation withheld.

Fresh Gravel for Fowls.

A "Farmer's Wife," writing in the Farming World, describes her experience of the effects on poultry of the absence of sharp grit in their runs. She says: "One constantly hears the complaint that after a certain time of having poultry on the same ground they begin to cease to thrive. And, in fact, the more perfect the arrangements for the poultry the more aggravating they are in this way. They have thrived splendidly for some years, and then comes a season when they begin to droop. The young hens are seen moping about, apparently with very full crops, but when caught, though the crop is full and hard, the body is light and thin; by-and-by one is found lying dead, and then another. If this goes on long enough, there is not a doubt poultry won't pay, and yet it seems strange that, with a perfectly unlimited run, this should happen (I am speaking of my own case). Now I know the reason, and I give my experience for the benefit of other farmers' wives.

"Two or three years of poultry on the same ground had pretty well cleared off all the sharp, small stones. My poultry had plenty of gravel walks within reach, but a high road, well metalled, where constant cart wheels were always breaking up fresh stones for them, was not easily got at by them.

"I sent the body of one of my dead pullets to a person who advertised, in a poultry paper, that for a certain fee he held post mortems on dead fowls, and I consider I never made a better investment. By return of post my answer came. The pullet was in perfect health, but owing to the absence of sharp grit in the crop, there was a stoppage of the channel of the gizzard and consequent wasting and death. In fact, my bird had died of acute indigestion. There were stones in the crop, but they were blunt, rounded little things, and the contents of the crop returned to me was a matted mass of half digested grass, most unpleasant to behold. I went to look at the gravel walks near the fowl houses. Sure enough, not a sharp stone could I find; every one had been picked up in the last three or four years. I at once sent for a sack of 'sharp grit,' and had dishes of it put down in all the yards, and most greedily do the fowls eat it.

"As far as I remember, I had lost about three pullets in a fortnight, and a good many more were looking sickly. From the moment the sharp grit was given they began to mend, and since its constant use I have not lost a bird. I bought one hundred weight of the grit, wishing to lose no time in putting my stock's digestion in order, but in the future I have decided that all the broken china and earthenware be collected, and I intend the farm boy to improve the shining moments, when outside work is impossible, by breaking this up into swallowable size by my fowls. Every housewife must know what a quantity of crockery gets broken, and I confess it is a sort of consolation, gazing at one's best milk pan cracked across, to think what a splendid amount of sharp grit will come out of it."

Veterinary.**Tuberculosis as a Contagious Disease in Farm Animals.**

BY DR. MOLE, V. S., TORONTO.

In considering a disease of this description, that has baffled the investigations of the most expert, it cannot be expected that symptoms and cause can be very definitely described, and it is expedient that we should only point out the symptoms, relate a case or two, and give a general idea of the changes that take place in the lungs, with the recommendation at all cost to be rid of the animal as quickly as possible, for a more insidious disease cannot exist in a herd. One serious outbreak, in the eastern provinces of Ontario, in a fine herd of Jersey cattle ought to be a warning to every farmer not to delay in securing the best skilled veterinarian to investigate the first cause, to isolate and slaughter all suspicious cases, for it is only by this means that the disease can be held in check. It is no exaggeration to say that veterinary science has made more progress than any other within the last eighty years, and more than ever it did in the previous eighty, and every branch of veterinary knowledge has shared in this advance. Pathological research had discovered new diseases, had revolutionized the views regarding many others, and was now pointing out the way to methods of prevention that were scarcely dreamed of two decades ago. Take the disease we are now considering. Twenty years ago tuberculosis used to be considered as some mysterious quality of the tissues, that did not admit of any rational explanation; and that it was contagious and infectious was admitted by veterinary surgeons, though it was believed to be generated by various means of exposure to inclement weather, close breeding or improper feeding—a very common expression, "It was something in the air." It has been proved at the present day, beyond the possibility of doubt, that tuberculosis was caused by the introduction into the system of a minute vegetable parasite, germ or organism, and the disease has now been classed as a specific germ disease or contagious malady. It was further known that tuberculosis of the animal was identical with consumption in the human species, and might be and has been transmitted from one to the other. Magnificent results have been achieved in the case of some diseases, notably the Pasteurian method of protecting animals against anthrax, another contagious malady affecting the bovine tribe, by means of the alternated culture of the anthrax bacillus. We appear to be on the very threshold of still greater discoveries with regard to several other diseases, more especially the one we are considering, and the means of combating them, which have hitherto defied every therapeutic effort up to the present.

Tuberculosis is an infective disease as much as any germ disease can be; that is to say, given an animal pre-disposed to contract the complaint and the conditions favorable for its dissemination, it will surely appear. But it is no proof that others in the same barn or stable are not attacked that it is not so, or that they are healthy and vigorous; it is because their systems generally are in such a condition as to be able to successfully combat with the disease, even though they inhale the spores of the bacillus tuberculosis