

A Weekly Page of Poultry Hints to Help You

Here Is a Department Full of Bright Ideas for Readers of the Home and Farm Magazine Section

 * These days the farmer seems *
 * to spend most of his time ward- *
 * ing off diseases of one kind or *
 * another from his stock or his *
 * trees. Fowl tuberculosis is an *
 * other disease it is worth while *
 * keeping an eye open for. Here *
 * is an interesting article on the *
 * subject.

By T. D. BECKWITH
 Bacteriologist Oregon Agricultural
 College.

A DISEASE which is becoming prevalent in the poultry industry of the Northwest is called avian tuberculosis, or tuberculosis of poultry. It is a disease which is due, like most of the other diseases to which all higher animals are susceptible, to a living cause, a certain germ, which cannot affect a healthy fowl unless it is carried to that fowl by some means. It never generates spontaneously. It is a disease which is fairly recent in the United States, having been noted in this country only in 1900, but it has been known in Europe for very many years.

The disease is exceedingly difficult to detect, for it is very slow in action and its spread has probably taken place insidiously, so that it has often become thoroughly established by the time the farmer is aware of its presence. At first merely one or two birds grow weak and slowly die, but later the fatality increases so that a very large percentage of a flock, or the whole flock, may be lost.

It is a disease which tends to attack tame or domestic birds, such as chickens, rather than birds in the wild state; since domestic fowls are living under less natural conditions, where in very many instances their freedom is limited, and they do not have a sufficient quantity of fresh air for the best conditions of health. It is a disease which tends to attack the adult fowl rather than chicks.

Similar in Cattle
 The disease is very similar to tuberculosis found in cattle, and to consumption found in human beings. The method of action of its germ is much the same and there is great reason to believe among scientific workers that it is possible for the disease to pass from man to fowl or from cattle to man.

In the symptoms, which appear only after the disease is well established, the bird very often shows emaciation and becomes droopy; the feathers are ruffled; the droppings become greenish in color, and the bird may go lame, due to weakness of the legs. Sometimes the comb or wattles become pallid; the eyes may be bright and a so sunken; the appetite is likely to become ravenous. There is no special symptom which may be noted, but rather the diagnosis must be made from a combination of all the symptoms.

In human tuberculosis, the lungs are most often attacked by the disease, and the other organs are therefore secondary in the total cases of infection. In fowls, however, a different condition is found. The liver, in almost all instances, shows a tuberculous appearance, and the spleen, which is a small pear-shaped body

about one-half inch in diameter just back of the liver, shows infection in almost as many cases. In less than one-fifth of the cases in fowls do the lungs appear to be affected.

Signs in Bird
 On cutting open a tuberculosis bird it will be found that there are very small yellowish and whitish spots, sometimes slightly swollen, although the swelling is not a necessary manifestation. These areas differ in diameter from one-sixteenth to one-fourth inch. In consistency they are cheesy, or they may appear to be little embedded portions of heavy fat, though pressure of the knife will show the difference. Sometimes, in older cases, they feel gritty when cut. These are the tubercles which have been produced by the bacteria. They are the point where the germs are growing and therefore are the very centers from which the disease germs work.

The disease is spread from bird to bird through the droppings, as the germ finds its way by this method to the exterior. If the chickens are fed in a dirty, filthy place then, and there are already some tuberculous birds in the flock, it may easily be seen how the disease passes from one to the other. Flies are also without doubt a factor in the spread of the disease. In only a small percentage of cases is the disease transmitted through the egg.

No Known Cure
 There is no known cure for the disease. The bird does not react readily to tuberculin and therefore this method cannot be used for detecting the disease, although such a method is of very great value for cattle. For small flocks that are infected with tuberculosis the best method is to kill the entire stock, give a very thorough disinfection, allow the land to lie for a year, and then start again. It must be remembered, and the point must be emphasized, that birds which die from infection by this disease, or which are killed when the disease is suspected, must be buried where earth worms may carry the partly decomposed material to the surface to infect other birds, nor must they be thrown into fence corners where birds as yet uninfected may pick them and thus become infected.

In case the stock is too large to be done away with, disinfection of the premises is the only possible procedure, and often that is not at all certain. All suspected birds must first be weeded out. The houses must be cleaned, all dirt and litter taken out, and then scrubbed. Eating troughs and drinking basins must receive the same treatment. Formaldehyde is effective only in a tight house. Lime spray may be used, 100 pounds of fresh lime being slacked with 50 pounds of water and mixed thoroughly. For use, one quart of the above slaked lime should be added to four quarts of water. This should be stirred thoroughly and sieved. It should be used immediately as a spray and every crack must be covered. The runs must be plowed up and turned under in order that the germs may be placed below the ground, where they may be expected in time to die out.

Examinations Are Free
 As an alternative the following formula, recommended by the Maine State Experiment Station, will be found useful: "Measure out 3 1-5 quarts of raw linseed oil in a 4 or 5-gallon stone crock; then weigh out in a dish 1 pound 6 ounces of commercial lye or 'Rabbit's potash.' Dissolve this lye in as little water as will completely dissolve it. Start with one-half pint of water and if this will not dissolve all the lye, add more water slowly. Let this stand for at least three hours until the lye is completely dissolved and the solution is cold, then add the cold lye solution very slowly to the linseed oil, stirring constantly. Not less than five minutes should be taken for the adding of this solution to the oil. After the lye is added continue the stirring until the mixture is in the condition, and has the texture, of a smooth homogeneous liquid soap. This ought not to take more than half an hour. Then, while the soap is in this liquid state and before it has a chance to harden, add, with constant stirring, 8 1/2 quarts of commercial cresol. The cresol will blend perfectly with the soap solution and make a clear, dark brown fluid. The resulting solution will mix in any proportion with water and yield a clear solution.

"Two or three tablespoonfuls of the cresol soap to each gallon of water will make a satisfactory solution. This solution may be applied through any kind of spray pump or with a brush."
 In case the Oregon farmer fears the disease in his flock and does not trust

his own diagnosis after cutting up the bird, he can take out the internal organs, place them in denatured alcohol and forward them to the department of bacteriology, Agricultural College, where the diagnosis will be made, free.

Shall We, "Swat the Rooster Here?" Eliminate the Male Bird From Poultry Flocks During Summer and Fall Is Advised

 * Here is a development of that *
 * "swat the rooster" idea we have *
 * been hearing about recently. *
 * The South plans great slaughter *
 * on May 16, while Missouri plans *
 * for June 6.

authorities of the cities, counties and towns of Kentucky and Tennessee have been requested to announce rooster day to the scholars and it is expected that it will be observed. It is expected that other states will follow the lead of their two Southern sisters and that rooster days will be pretty generally established.

IN THE interest of the infertile egg the poultry specialists of the Department of Agriculture have started a campaign for the elimination of the rooster among poultry flocks during the seasons between May 1 and December 1. In this connection Saturday, May 16, has been set aside as rooster day in Kentucky and Tennessee, when every poultry dealer in these states has agreed to pay the same prices for roosters as they do for hens and pullets.

There is an enormous loss in eggs as the result of the fertile egg, especially during the summer and fall months, and it is for this reason the Department of Agriculture recommends that the rooster be kept away from the hens during these seasons. It is estimated that one-third of the tremendous annual loss of eggs is due to the fertile egg.

Fertile Eggs Spoil Quickly
 It is not necessary for a rooster to be among hens in order that their laying qualities may not be curtailed. The rooster, it is advised, should be allowed with the hens only during the breeding season, and eggs that are intended for hatching purposes should be fertile, as the infertile ones will not hatch.

Fertile eggs spoil very quickly when subjected to the ordinary methods of handling on the farm and when marketed during the hot summer months under adverse conditions. Infertile eggs will keep in good condition in temperatures which will cause fertile eggs to rot. On May 15 the school

Market Old Hens

It is advisable to market the old hens in the summer as soon as the second laying season is over, continues the department's advice, as hens over two years old rarely lay as many eggs as they do in their pullet and yearling seasons. Keep the nests clean; provide one nest for every four hens; gather the eggs twice daily; keep the eggs in a cool, dry room or cellar; and market them at least twice a week. Market all cockrels except those intended for breeding purposes, as soon as they attain broiler size, for they will pay a larger profit at that time than if held until fall, when the market becomes over-crowded.

The department is planning a campaign among the boys' and girls' poultry clubs in Kentucky, Tennessee, Virginia and North and South Carolina, to encourage not only production of a better grade of eggs, but a more uniform method of grading. Arrangements are being made to offer prizes for the production of the best dozen of eggs and it is expected that the state, county or municipal officials will offer such prizes as trips to the Panama-American Exposition at San Francisco.

Some Poultry Questions Are Answered

THE great problem in poultry culture is "How to make the income overtake the cost of production," and in solving this problem several important questions must be considered.

What breed shall I select? What is the best breed? How can I improve the quality of my flock? How can I maintain vigor, size and productiveness in the flock and sacrifice nothing in color or shape? These are questions that confront every breeder.

The remark is often made that one breed is as good as another. Such a statement must be taken with due allowance. The selecting of a breed must be determined by climate, the environment, the end sought and the tastes of the individual. The White Leghorn would not be selected for a market fowl, nor for a severe climate. The Buff Cochins would not be selected for egg production nor for southern climate.

Maintaining quality while preserving vigor is accomplished by introducing blood from time to time and by a process of line breeding. It is sometimes disastrous to introduce new blood. If a conflicting strain is used, the work of years may be destroyed in a single season. But new blood, if obtained from the same strain as the original flock, i. e., from a strain that has been bred in line for years, will add vigor and quality to the flock. Some advocate adding blood through the female, others prefer selecting a choice male and mating him with a pen of selected females.

Another method of maintaining vigor is by process of line breeding. There are two methods of in-breeding where males and females from the

same parents are mated together. This results in physical deterioration and is undesirable. Line breeding is a form of in-breeding and at the same time maintains vigor and tends to perpetuate desirable characteristics.

Suppose a breeder begins with a flock of two females and one male. They have been line bred and, therefore, are not closely related. During the first year this pen will produce a large number of pullets and cockerels. At the beginning of the second season the cock bird is mated to 10 of the best pullets and hens of the original pen are mated with one of the best cockerels. From these two pens we have two lines of production. The cockerels from one line can be mated to the pullets of the other line and vice versa. By adding new blood from time to time, of the same strain as the original pen, a line of breeding can be established excelling in color, shape, vigor and productiveness.

Vigor in the foundation stock is of supreme importance. When lacking, it means inferior eggs and stock, dead chicks in the shell, disease in the flock and unproductiveness.

Where fowls are produced in large numbers, housing is of supreme importance. Houses will be required for breeding stock, for incubation, for brooding the growing stock, and for conditioning for market. With the farmer and small breeder, however, who keeps but one breed and a limited number of fowls, the question of housing is simpler. To him the chief consideration is the breeding house and winter home of the fowls.

Ghent, Belgium, furnishes practically all of the potted specimens of the symmetrical Araucaria, or Norfolk island pine, used as an ornamental foliage house plant, in Europe and America. The United States imports at least 250,000 of these plants in 5- or 6-inch pots each year.

Makes Good



The Famous IDEAL

Price \$8.00 and Up

SEND FOR OUR FREE BOOK
 which tells all about IDEAL incubators, how well they are made, how nicely finished, why our prices are low and why they will give better satisfaction than any other incubator. Write for booklet today. It is illustrated and gives money-making hints that are valuable.

The Chas. H. Lilly Co., Seattle

POULTRY
 BROWN LEGHORN eggs for hatching, \$1.50 per 15, of \$4 per 100; 30 per cent fertility guaranteed. Baby chicks 15 cents each in lots of 50 or more. Utility Poultry Co., Bethel, Wash.