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## OREGON AGRICULTURAL COLLEGE

### EXTENSION DIVISION

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# Fowl Tuberculosis

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# Fowl Tuberculosis

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 be 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.

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 also 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.

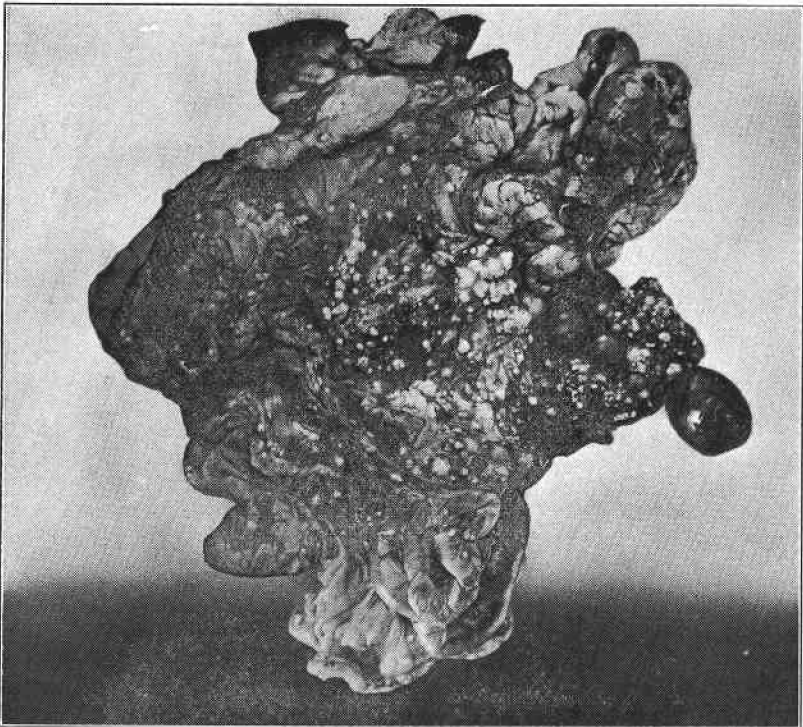
In human tuberculosis, the lungs are most often attacked by the disease, and the other organs are therefore secondary in the total cases of infection. In fowls, however, a different condition is found. The liver, in almost all instances, shows a tuberculous appearance; and the spleen, which is a small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

On cutting open a tuberculous 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. Some-

times, 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.

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 burned. They must not be buried where earth



ENTRAILS OF A TUBERCULAR FOWL. NOTE THE WHITE SPOTS.

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 slaked with 60 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.

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 'Babbitt'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 of lye 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, 8½ 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.