

by sick fowls introduced into healthy flocks. Germs generally are spread throughout a yard by means of the secretions, although these do not always contain the casual organism. The infected fowls are not very much different in their general appearance and condition at the beginning of the disease, and thus they often take food and water for a long time, contaminating the food, troughs and cups. As the germs cannot infect fowls so long as the mucous membranes are intact and healthy, the disease does not spread for a certain length of time, although the germs may be present almost everywhere in the yard. Then comes a change of weather, such as a cold night or the beginning of fall and winter,—and suddenly the infectiousness of the disease is increased and roup spreads rapidly among the birds. Unfavorable weather, which causes colds and other infections of the mucous membranes, directly opens the way for infection. But it is possible that the roup bacilli, having infected a number of fowls, may gain so much in virulence as to be capable of entering into the tissues of the fowl without previous colds. Like colds, other circumstances which weaken the constitution of the fowls, such as unsuitable feed or feeding, unhygienic yards, bad water supply, etc., contribute towards the spread of the disease. Once present in a poultry yard, the roup-causing bacilli cannot be got rid of, unless by very careful disinfection; and this is valueless so long as any of the fowls are diseased; and, as we have already stated, fowls often remain affected with roup, carrying the germs in a semi-dormant state, for months or years.

It is possible that just one kind of bacillus, for example, our "roup bacillus," causes an outbreak of roup; or an outbreak may be caused, as here at the Ontario Agricultural College, by several species.

TREATMENT AND PREVENTIVES.

As roup is not a specific infectious disease, that is, a disease caused by a single species of germ, it is almost impossible to prepare a preventive or curative serum. Hence this method of treating infectious diseases cannot be used in roup; and besides it would be very costly.

The germs of roup are not very resistant; they can easily be destroyed when present in cultures, or somewhere outside the animal; but in the animal tissue, they are very difficult to kill, because they penetrate into the tissue; and unless this too is killed, the germs continue living for a long time.

Roup may be cured by remedies, if the treatment is careful and judicious. Obstinate re-appearing false membranes can be successfully treated by burning the diseased tissue with a strong acid (hydrochloric acid 50 per cent. to 75 per cent.), or other caustics, such as silver nitrate. If the eyes and nose are attacked, they have to be carefully washed, at least twice a day, with an antiseptic solution such as 2 per cent. boracic acid in a decoction of chainomile flowers, or