



Poultry Patter



AGRICULTURAL EXTENSION SERVICE • INSTITUTE OF AGRICULTURE
UNIVERSITY OF MINNESOTA

Volume 5, No. 2, March 1967

RESPIRATORY INFECTIONS IN POULTRY

Dr. B. S. Pomeroy
Department of Veterinary
Bacteriology and
Public Health



Respiratory diseases still cause considerable concern to the poultry producer and broiler grower. In this area, the commonly occurring diseases are:

1. Chronic Respiratory Disease (CRD)
2. Fowl Cholera
3. Fowl Pox
4. Infectious Bronchitis
5. Newcastle Disease
6. Laryngo-tracheitis

Under field conditions, many respiratory outbreaks are complicated with other infections such as CRD and *E. coli*. In some areas of the country, mixed infections involving CRD, fowl cholera, and infectious coryza frequently are encountered in laying flocks.

The trend in laying flocks is to have large, concentrated units on a farm. Under such conditions, growers should take advantage of known preventive programs. One approach is to use thorough vaccination programs.

Q. What vaccines are used commonly in replacement flocks?

A. Effective vaccines are available for fowl pox, infectious bronchitis, Newcastle disease, laryngo-tracheitis, and fowl cholera. There are no vaccines available for CRD and infectious coryza.

Q. What criteria are used to determine which vaccination programs should be used on an individual flock?

A. The vaccination program should be tailored to the disease problems of the farm and area. For example, the incidence of laryngo-tracheitis in Minnesota is very low. So vaccination should be restricted to farms where the disease has been a problem. Birds that have gone through the disease or have been vaccinated are potential carriers of the disease for life. Thus, the only way the disease can be eliminated

from a farm is through complete depopulation and restocking with birds that have not been exposed.

Because the vaccine is a live virus product, the danger of spreading the disease to other flocks in the area is always present. So use this vaccine with caution.

Q. Is it necessary to vaccinate pullet replacement flocks for fowl pox, Newcastle disease, and infectious bronchitis?

A. In the past few years, the incidence of Newcastle disease has decreased to a very low level. Three general types of vaccines for the disease are available--a killed virus product, modified live virus vaccine, and a more virulent vaccine that usually is applied by the stick method. The more virulent vaccine should not be used in Minnesota. It can cause considerable reaction in a flock, and the vaccine virus will readily spread to other flocks on the farm and in the area. Growers in some states think they have to use this product to get solid protection against Newcastle disease. But in Minnesota the mild type of Newcastle vaccine has given very satisfactory results. Most commercial producers vaccinate their replacement pullets for Newcastle disease--you should continue this practice.

Fowl pox is not as common as it has been in previous years. One of the reasons is the large commercial producer's use of a vaccination program on each replacement flock. The chief problem in the past was the "on again, off again" vaccination program as practiced in small farm flocks.

Infectious bronchitis is widely distributed throughout the state. It is highly transmissible. In order to establish good immunity in a flock, the bronchitis vaccine must produce an active response in the birds. Research has shown that there are at least four different serotypes of the virus, and one serotype will not give good protection against the others. This fact probably accounts for "breaks" in laying flocks that result in a moderate drop in egg production even when flocks are vaccinated with a commercial vaccine according to directions. Bronchitis vaccines containing the two commonly encountered bronchitis strains sometimes referred to as Connecticut (Conn) and Massachusetts (Mass) now are available. These strains are serologically different and produce some cross protection, but the protection is not complete.

Q. What vaccination schedule should be followed in Minnesota?

A. Now is the time to plan your vaccination program for replacement pullet flocks. In most areas, fowl pox, Newcastle disease, and infectious bronchitis vaccinations are needed. You should complete your vaccination program by the time birds are 16 weeks of age and before they are older than 20 weeks. The birds should be completely recovered from the stress of vaccination before they come into production. When you stop to think about the stresses chickens go through before they reach maturity, it's a wonder they lay as well as they do. They may go through debeaking; vaccination for Newcastle disease, infectious bronchitis, fowl pox, laryngo-tracheitis, fowl cholera, and encephalomyelitis; an outbreak of CRD complicated with *E. coli*; vaccination for coccidiosis; deworming; and then they're placed in a living space of 1 square foot or less!

For a specific vaccination schedule, follow the vaccine manufacturer's recommendations precisely.

Q. Is it necessary to vaccinate for fowl cholera?

A. The number of fowl cholera outbreaks in turkey flocks has increased in Minnesota and other turkey producing states in the past year. Outbreaks in chicken flocks in Minnesota have been quite minimal, but the situation with turkeys indicates that the cholera germ is potentially dangerous to both chicken and turkey flocks. In some instances, cholera bacterin has not given good protection in turkey flocks. At least two injections of cholera bacterin should be given approximately 2 to 3 months apart. You should complete this schedule before the birds are housed or caged.

Q. What are the prospects of eliminating CRD in egg producing strains of chickens?

A. CRD and complicated CRD with *E. coli* have been encountered in egg producing strains as well as in broiler stock and can be just as severe in both types. A definite attempt is

being made in the chicken and turkey industries to eliminate CRD from primary breeding stock. The turkey industry has practically eliminated the disease, but "breaks" do occur in breeding flocks. Chicken broiler breeders have come a long way in developing a program to eliminate the disease, and breeders of egg producing strains are now beginning to develop flocks free of it. Tools to eliminate the disease are available.

Q. All these vaccination programs have one objective--to protect the chicken from disease outbreaks. What can management do to support this preventive program?

A. There are eight basic practices you must follow to get maximum production.

1. Keep visitors out of your laying house. When it is unattended, keep it locked.
2. Thoroughly clean and disinfect the laying house before placing a new flock in it.
3. Practice an "all in, all out" program. In other words, have only one age group in a house or, better yet, have only one age group on the premises.
4. Allow only the caretaker to have regular access to the house. Ask him to avoid other poultry areas.
5. See that poultry equipment and crates going into the house are thoroughly cleaned and disinfected.
6. Control rodents and other pests; keep dogs and cats out of the house, as they may carry infection into it.
7. Keep wild, free flying birds out of the house by placing wire mesh over the windows and ventilators.
8. Seek advice if disease problems arise before you start your medication program.

1, 800--3-67



Poultry Patter

IN THIS ISSUE... Respiratory Infections in Poultry

AGRICULTURAL EXTENSION SERVICE
 INSTITUTE OF AGRICULTURE
 UNIVERSITY OF MINNESOTA
 St. Paul, Minnesota 55101
 Luther J. Pickrel, Director
 Cooperative Agricultural Extension Work,
 Acts of May 8 and June 30, 1914
 OFFICIAL BUSINESS

POSTAGE AND FEES PAID
 U.S. DEPARTMENT OF AGRICULTURE