

# TURKEY DISEASE

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**P**REVENTION and control of disease is based on knowledge of the specific diseases in the geographical area under consideration. In 1951 a summary of poultry diseases in North Dakota and western Minnesota was published by this department<sup>1</sup>.

This report will discuss the trends in disease incidence of turkeys in North Dakota and western Minnesota.

Table I presents the percentage of incidence of some of the more common diseases, comparing the period 1944-49 to 1956-57. The figures given are percentages of the total number of cases submitted and not on individual birds. The data for 1944-49 are taken from 935 cases and the data for 1956-57 are from 239 cases.

There is no indication that losses due to disease have increased in the last 8 years, but the trend appears to be an increase in coccidiosis, chronic respiratory disease and erysipelas. Most of the other diseases have, in general, decreased in incidence. For those diseases showing a higher rate of incidence, a detailed discussion would be of value to the turkey producers.

## Coccidiosis

Coccidiosis is a disease caused by a small protozoan parasite that invades and destroys the lining of the small or large intestines. At least four species are pathogenic for turkeys. There is a species immunity for each type of coccidium, but with the number of species it is possible for a turkey to have all four outbreaks of the disease.

Many coccidiocidal (killing) and coccidiostatic (multiplication inhibiting) chemicals are available to turkey producers. These chemicals are used more or less indiscriminately, but the losses continue.

Several reasons for losses due to coccidiosis are:

1. Turkey producers often think that if they experience one outbreak of coccidiosis they will not have another. This is not so—they may have four outbreaks.

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2. Many producers depend too much on medication and neglect the ordinary sanitary precautions recommended for the control of any disease.

3. Medication for control of coccidiosis is often of too short a duration. High concentration of a given medicant in water or feed may be of value to infected birds, but will be of no value to birds that become infected after the medication is discontinued. In general, it is better to use a less concentrated medicinal agent for a longer period of time than to depend on a single or interrupted treatment of short duration.

4. In some areas certain species of coccidia have become tolerant to drugs which previously were effective in the control of coccidiosis.

Control of coccidiosis in turkey flocks must be based on an accurate diagnosis, proper sanitary precautions, use of proper medicinal agents and the feeding of a balanced ration, particularly with adequate amounts of vitamin A.

TABLE I.—Incidence of Various Diseases of Turkeys Expressed as Percentage of Total Number of Cases Submitted

Disease	Percent 1944-49	Percent 1956-57
Coccidiosis .....	6.8	22.6
CRD .....	.....	10.0
Erysipelas, less than .....	1.0	7.9
Blackhead .....	12.9	7.1
Staphylococcosis .....	3.4	4.6
Navel infection .....	22.4	4.2
Cholera .....	2.4	3.7
Paratyphoid .....	8.6	3.3
Bluecomb .....	.....	2.9
Streptococcosis .....	.....	2.1
Hemorrhagic disease .....	.....	2.1
Internal parasites .....	1.8	2.1
Misc. nutritional diseases .....	3.4	2.1
Leucosis .....	0.1	2.1
Pullorum disease .....	6.5	0.4
External parasites .....	0.1	0.4
Newcastle disease .....	2.2	0.4
Miscellaneous .....	28.4	22.0

## Chronic Respiratory Disease

This disease, often called sinusitis, air sac infection and, at times, pneumonia, is caused by an organism usually referred to as P P L O (Pleuro-pneumonia like organism).

The organism invades the sinuses, the lungs and the air sacs. The infection may spread from the air sacs to the adjoining area of the abdominal cavity and deposits of pus-like material will be found on the liver and over the intestines.

The PPLO is not as pathogenic for chickens as it is for turkeys. Infection by this organism may produce sinusitis, pneumonia, "frothy" air sacs and peritonitis in turkeys.

In general, death losses are low unless the birds are put under a stress such as sudden change of ration, inclement weather or a simultaneous infection with another disease.

The greatest economic losses from CRD are slow growth, failure to fatten and condemnation of the carcasses because of peritonitis and pneumonia.

Medication for CRD is not always satisfactory. Many veterinary supply houses have antibiotics or mixtures of antibiotics and sulfonamides, or other chemicals recommended for treating CRD. Where these medicants are used properly and efforts are made to protect the turkeys from stress factors, losses from this disease have not been high.

No prophylactic agent is available for immunizing turkeys against CRD.

### **Erysipelas**

Erysipelas, a disease caused by a bacterium, *Erysipelothrix rhusiopathiae*, once considered a disease primarily of swine, is becoming a very serious disease of turkeys. This disease frequently occurs in the fall at the time the birds are ready for market and the losses from deaths and loss

of flesh of those that recover from the disease are high.

Once erysipelas is established on a farm, there seems to be little hope in eliminating it.

Medication of sick birds with penicillin or streptomycin, or a combination of both, is usually effective in curing diseased birds. Erysipelas anti-serum is useful but is usually more expensive than the use of the antibiotics.

The most satisfactory method of preventing erysipelas is prophylactic vaccination. Several types of immunizing agents are available. It has been found experimentally with turkeys that the bacterin is more effective in producing immunity than is the attenuated culture vaccine.

Poults under 6 weeks of age should not be vaccinated as they do not develop a high enough degree of immunity.

Removing all sick birds from the flock at frequent intervals aids in controlling outbreaks of erysipelas.

### **Blackhead**

Blackhead or entero-hepatitis is caused by a protozoan organism *Histomonas meleagridis*. This disease occurs frequently and often causes heavy death losses. Several medicinal agents can be incorporated into the feed or water as a prophylactic. Usually, when birds start showing symptoms of the disease,

medication is of little value because of the destruction of liver and cecal tissue.

Blackhead is usually encountered under conditions of poor sanitation. One of the most effective control measures is the frequent moving of the flock and, where possible, keeping the flock on well drained ground.

### **Staphylococcosis and Streptococcosis**

Diseases caused by these organisms are encountered most frequently under conditions of poor sanitation which may be in the hatchery or on the farm. A specific diagnosis by laboratory methods should be made before attempting treatment.

In general, the broad spectrum antibiotics are most useful in treating these diseases.

### **Salmonella Infections**

Pullorum disease, fowl typhoid and paratyphoid have all decreased since 1949. This is due largely to a vigorous blood testing program of breeder flocks in North Dakota and Minnesota. If the program is continued, it is believed that the Salmonella infections can be eliminated from all breeding flocks. One point that must be considered in this program is the part rats and mice play in spreading some of

the paratyphoid infections. All turkey raisers should have a continuing program for the elimination of rats and mice.

### **Navel Infection**

The disease referred to here is not the navel infection which results from bacterial infection of the open navel of recently hatched poults, but a specific disease caused by what appears to be a virus.<sup>2</sup>

This disease was very prevalent during the 1944-49 period, but has decreased since. No type of medication has been found effective in treating this disease which usually occurs in very young poults.

Most cases reported for 1956-57 occurred in poults which originated out of state.

### **Summary**

The data in table I indicate coccidiosis is the most frequently occurring disease in this area.

The main points in turkey disease control are (1) use the best sanitary measures to prevent the introduction of disease into the flock; (2) feed a complete ration; (3) when disease is apparent, get an accurate diagnosis, and (4) use the vaccines or medicines as recommended by your veterinarian.

#### **LITERATURE CITED**

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