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Control of Poultry Disease Outbreaks

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Poultry owners should immediately begin an investigation if a disease is suspected in a flock. Obvious disease signs and symptoms can be identified on the farm, while others may require laboratory assistance for proper diagnosis.

Missouri poultry owners have several state-operated and commercial laboratories available. The services of these laboratories are generally available at minimal cost. They are equipped to identify disease problems and make recommendations for control.

Disease symptoms

Recognize disease early. Set aside a certain period each day to observe the flock. Look for unhealthy birds. Note the birds' actions and how they are eating and drinking. Listen for any unusual sounds — sneezing or rattling. The spread of the disease and the cost of treatment may be reduced if the disease is recognized early.

Flock records can aid in recognizing a disease in its early stages. A slump in feed and/or water consumption is usually the best early indicator. Keep daily feed and water consumption, egg production and mortality records. Major changes in these flock records from day to day, or over a period of time, may indicate that a disease is present in the flock.

Rules of thumb

Certain rules of thumb are helpful in evaluating the importance of a developing disease problem. For example, if you notice more than 1 percent of the flock sick at any one time, disease is probably present that needs immediate attention. To make it easier to see increased illness in the flock, remove obvious culls as soon as they show evidence of never returning to economical growth or egg production.

You can expect a mortality of about 2 percent in baby chicks and 3 percent in turkey poults during the first three weeks of age. If losses are greater

than this, there may be cause for alarm.

The so-called normal mortality after three weeks of age should not exceed 1 percent per month. A slight rise in mortality can be anticipated as adult flocks come into egg production.

On-the-farm diagnosis

Do not attempt to identify all poultry diseases on the farm. The risk is too high. Most modern poultry farms represent a large investment with a heavy loss if the wrong medication is given. Only a limited number of diseases can be accurately identified without laboratory aids. When in doubt, use the laboratory facilities in your area to get an accurate diagnosis.

Collecting history

The veterinarian will need a history of your flock if birds are taken or sent to a laboratory. The basic questions asked by each laboratory are much the same. The sample form gives some of the usual information required by the laboratory diagnostician.

Sample case history form

Case number _____ Date _____ County _____

Owner _____ Address _____

Number presented ____ Breed ___ Sex ____ Age ___

Hatched by _____ Number in flock ____

Breeder flock for _____ Number dead _____

Feeding program _____ Number sick _____

Drugs and feed additives _____

Housing _____

Vaccinations

	Method	**Age**
Newcastle	_____	_____

Bronchitis _____ _____

Fowl Pox _____ _____

Other _____ _____

Clinical symptoms _____

Miscellaneous history _____

Findings:

Cultures _____

Post-mortem _____

Tentative diagnosis _____

Recommendations _____

A complete history on the flock gives the veterinarian a clear picture of what has taken place. From this history, the veterinarian will select the information that relates to this particular disease outbreak.

If you want other persons such as your feed dealer or hatchery owner to receive a copy of a lab report, be sure to submit their names and addresses along with the flock history. This service is usually without charge; however, these requests should be kept to a minimum to reduce postage and mailing costs for laboratories.

If phone reports are desired, most laboratories require that these must be made collect to the owner or other persons receiving the report. Individual laboratories vary whether the call should be initiated by the diagnostician or by the person desiring the report.

Selecting specimens

The poorest long-standing culls in the flock are not the type of birds to take to the laboratory. Instead, try to collect specimens representing the current, most troublesome disorder.

It is best to take two or three live birds to the lab rather than a one-bird sample. A general rule is that the sicker a bird becomes, the more likely it is to have developed internal damage that points to the cause of the illness.

Transporting specimens to lab

Most laboratory diagnosticians prefer that specimens be brought to the laboratory by a person acquainted with the history and present

circumstances of the flock in question. If other methods are used, a detailed history as described should be sent with the specimens, either attached directly or carried by the person transporting the specimens.

Where direct transport is not available, specimens can be shipped by public carrier. However, this is discouraged because infectious disease may be spread while the birds are en route. Hatchery or feed company trucks should not be used to transport diseased birds if vehicles are to be used later to transport chicks or feed to premises having healthy birds. Any shipment of specimens by public carrier in preserved form should be made only after getting expert advice on postal regulations and packing methods. The best source of information is the local veterinarian.

Procedures used in diagnostic lab

The procedures for diagnosing poultry diseases are similar in most laboratories. Notations are made of the history, birds are observed for symptoms and appropriate numbers are examined after death.

A laboratory will use primary and secondary tests in making a diagnosis. Primary tests include bacterial cultures, bird inoculations, direct microscopy of tissues and body fluids, and serum tests.

Secondary tests might include virus isolations, chemical analysis and microscopic examination of prepared tissues.

Results of all tests conducted would be considered in making the final report. Time required to get the final report might range from one day to six weeks. The longer period would be necessary for culture growth and identification of some types of bacteria such as Avian T.B. and some fungi.

Many of the laboratories will give a preliminary report at or soon after the first examination of the birds. Then it is often necessary to change this tentative diagnosis as more information is accumulated. The objective is to get a true identification of the source of the disease and then to make sound recommendations that will help return the birds to good health with the least loss.

Application of lab results

Conscientious application is necessary if the results of laboratory findings and recommendations are to be of the greatest benefit. However, the usual laboratory report is not intended to be a detailed coverage of all measures that should be carried out. Most reports are written to emphasize specific measures applying to the problem in question.

The sick flock should be frequently observed to check reaction to drugs and to see that birds are eating and drinking properly. Observe any change in symptoms that would indicate a change in the course of the present disease, or possible development of other diseases. It is quite common, particularly in large flocks, that two or more diseases are found in the flock at the same time. Should changes occur, it is often helpful to consult again with your veterinarian to determine whether further examinations or changes in control measures may be necessary.

It is particularly important to vacate the building and clean and disinfect everything following a severe disease outbreak. When a disease is present that cycles back to younger birds, it may be necessary to remove all birds. Then, after cleaning and disinfecting all buildings, the enterprise can be

reestablished on a healthy basis.

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Related MU Extension publications

- G8350, Small Flock Series: Managing a Family Chicken Flock
  http://extension.missouri.edu/publications/DisplayPub.aspx?P=G8350
- G8903, Prevention of Poultry Disease
  http://extension.missouri.edu/publications/DisplayPub.aspx?P=G8903

Order publications online at http://extension.missouri.edu/explore/shop/ or call toll-free 800-292-0969.

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