

Unit C: Poultry Management

Lesson 3: Poultry Health Management

Student Learning Objectives: Instruction in this lesson should result in students achieving the following objectives:

1. Demonstrate sanitation practices for poultry.
2. Discuss other health management practices used in poultry.
3. Vaccinate poultry.

Recommended Teaching Time: 3 hours

Recommended Resources: The following resources may be useful in teaching this lesson:

- A PowerPoint has also been developed for use with this lesson plan
- <http://pubs.caes.uga.edu/caespubs/pubcd/B1244/B1244.htm>

List of Equipment, Tools, Supplies, and Facilities

Writing surface
PowerPoint Projector
PowerPoint Slides
Transparency Master copies
Student Lab Sheet copies

Terms: The following terms are presented in this lesson (shown in bold italics and on PowerPoint Slide #2):

All-in, all-out
Intranasal vaccination
Intraocular vaccination
Wing web vaccination

Interest Approach: Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A possible approach is included here.

Show a picture of a healthy bird and a sick bird or use PowerPoint Slide #3. Ask the students to compare the difference between the two pictures on the slide, “Why do you think this bird

got sick?” and, “What could have been done to prevent this and to keep you poultry healthy?” After a short discussion lead into Objective 1.

Summary of Content and Teaching Strategies

Objective 1: Demonstrate sanitation practices for poultry.

(PowerPoint Slide #4)

- I. Whether a poultry flock is housed inside or allowed to roam free range, their health is still a concern and must be managed.
 - A. If poultry are kept in houses a procedure should be followed after removing those birds and introducing a new flock.
 1. Remove all equipment from the house and thoroughly wash it.
 - a. Remove all manure and wash with a disinfectant.
 - b. Expose the equipment to sunlight to aid in removal of harmful bacteria.

(PowerPoint Slide #5) This slide shows a large poultry operation where the chickens are suspended in cages. The manure falls to the ground and make for very easy removal and cleaning.

(PowerPoint Slide #6)

2. Remove all litter and manure from the house.
 - a. This might include scraping and brushing the floor clean.
 - b. Dispose of the manure by spreading it thinly on land that is not used by other poultry.
 - i. Poultry should not be placed on this land for at least 4 years.
3. Sweep the walls and ceilings.
4. Using high pressure, hose down and scrub the inside of the house.

(PowerPoint Slide #7) This slide shows a small poultry farm owner cleaning out a bird house with a pressure washer. After washing, the inside should be sprayed with a disinfectant.

(PowerPoint Slide #8) This slide shows a large poultry operation being cleaned using a similar pressure washer.

(PowerPoint Slide #9)

5. Spray the inside of the house with an approved disinfectant.
 - a. Spray should be applied to all surfaces.
 - b. Avoid getting disinfectant in the waterers and feeders.
6. Place new, clean, dry litter in the house.
7. Leave the house empty for at least two weeks to break any disease cycles that could be present.
8. Eliminate places for pests such as flies to breed.

(PowerPoint Slide #10)

- B. Whenever possible, do not allow visitors to enter the house.
 1. Visitors could bring potential bacteria and viruses into the house and cause an outbreak of disease.

(PowerPoint Slide #11)

- C. If birds should die while in the house remove them as soon as they are discovered.
 - 1. They should be disposed of far away from the current poultry operation by placing in a pit or incinerating.
 - a. Do not consume these birds since the cause of death cannot be determined.
 - b. Some avian diseases are transmittable to humans.

Ask the students, “Why is it important that we keep the poultry operation so clean?” “Do you think this procedure is the same for all species?” View <http://pubs.caes.uga.edu/caespubs/pubcd/B1244/B1244.htm> for more information on poultry disposal. Discuss these practices with the students.

Objective 2: Discuss other health management practices used in poultry.

(PowerPoint Slide #12)

- II. Sanitation is the most important poultry health management procedure, but there are other practices used in health management.
 - A. Begin a disease free operation by purchasing birds that are proven disease free.
 - 1. Many poultry producers that sell live birds will test their poultry for diseases.
 - 2. Ask the producer if they have any documentation showing the vaccination and management practices.

(PowerPoint Slide #13)

- B. Keep birds of only one age on the farm.
 - 1. This can be done by using an **all-in, all-out** procedure.
 - 2. All-in, all-out means all the birds are brought onto the farm at one time and removed at the same time.
 - 3. If birds of different ages are present on the same farm, separate them by at least 40 feet.
- C. Separate breeder flocks from the other poultry.
 - 1. Preferably, no other poultry should be kept on the farm if a breeder flock is kept.

(PowerPoint Slide #14)

- D. Keep other flying birds out of the house or away from the flock.
- E. Provide proper ventilation to birds in houses.
- F. Keep rodents from entering the house.
- G. Feed balanced rations to prevent nutritional diseases.
 - 1. Also provide plenty of clean, fresh water.
- H. Keep records of all the birds so that you know when the birds were vaccinated, what disease problems existed and what medicines were used.

Split the class into small groups of 3-4 students. Have them create a record sheet that could be used on a poultry operation. They should include items such as: species, age, sex, vaccination schedule, general bird health observation, etc. Use the items discussed in the objectives to create this record. Once all groups have created their records come together as a class to put the ideas together and create common record sheets. Examples of records are attached to this lesson on TM: C3-2.

Objective 3: Vaccinate poultry.

(PowerPoint Slide #15)

III. Depending upon the size of the flock and species of bird, vaccination may be necessary to prevent major disease outbreaks.

A. Vaccination is not a substitute for proper health management, but rather it is helpful in controlling diseases.

1. Vaccines are available for a wide variety of poultry diseases including infectious bronchitis, flow pox, fowl cholera, and others.

(PowerPoint Slide #16)

B. Vaccines should only be used in areas where the disease is known to exist.

1. Over-vaccination or improper vaccination could result in diseases resistant to the specific vaccine.
2. A vaccination program should be planned to the specific operation and locality.
3. Contact your local Extension Agent for specific details on vaccination.

C. Vaccination can cause stress on poultry so they should only be vaccinated when healthy.

(PowerPoint Slide #17)

D. There are various methods used to administer vaccines.

1. Individually, birds are given injections, intranasally, intraocularly, or through the wing web.

(PowerPoint Slide #18)

a. **Intranasal vaccination** is placement of the vaccine directly into the nose opening.

(PowerPoint Slide #19)

b. **Intraocular vaccination** is placement of the vaccine directly into the eye.

(PowerPoint Slide #20)

c. **Wing web vaccination** is the process of injecting the vaccine into the skin on the underside of the wing web at the elbow.

(PowerPoint Slide #21)

2. Vaccines given to an entire flock are given in the water, by spray, or by dust.

a. The method used depends on the disease to be controlled.

E. Individual vaccinations causes more stress on birds than flock treatments.

(PowerPoint Slide #22) This slide shows a large poultry operation with an automated sprayer used to vaccinate poultry. In smaller operations a small handheld pump type sprayer can be used to spray the birds.

(PowerPoint Slide #23)

F. Preventing a disease is easier than controlling it.

1. The poultry flock should be checked daily for signs of disease.
2. Sudden drops in feed and water consumption are signs of health problems.
3. If more than 1% of the flock is sick there is probably a disease present.

(PowerPoint Slide #24)

4. Death rate is another common sign of disease.

a. The normal death rate for chicks is about 2% in the first three weeks.

i. Turkeys usually experience 3%.

b. After three weeks of age, the death rate should not be more than 1% per month.

c. A sudden increase in this rate is a sign of disease.

(PowerPoint Slide #25)

5. Some diseases can only be accurately diagnosed in a laboratory and very few can actually be diagnosed on the farm.
 - a. Contact a local veterinarian or Extension Office for advice on disease diagnosis.
 - b. Each laboratory will have different requirements for sample collection.

Provide the students with a copy of TM: C3-1 “Poultry Diseases” and LS: C3-1 “Poultry Disease Information”. Have each student pick a disease for each species. Provide them with textbooks and internet access to research each disease. Once they have filled out LS: C3-1 they should create an information tool such as a PowerPoint, a pamphlet or a poster from their information which can be handed out to poultry producers.

Review/Summary: Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used to determine which objectives need to be reviewed or re-taught with a different approach. Questions on **PowerPoint Slide #26** can also be used.

Application: Take the students to a poultry producer of any size, or have the producer visit the class. Have the producer discuss their management procedures, what they do to maintain bird health and what they do for vaccinations. Alternately, have the students present their projects from Objective 3 to the class.

Evaluation: Evaluation should focus on student achievement of this lesson’s objectives. A sample written test is attached.

Answers to Sample Test:

Matching

1. C
2. A
3. D
4. B

Short Answer

5. Entire flocks can easily be vaccinated by putting the vaccine in the food and water or also spraying the entire flock.
6. Visitors entering the poultry housing can unknowingly spread viruses and diseases.
7. Vaccinating healthy birds will cause stress in the bird. Also, vaccinating healthy birds could cause the virus to become resistant to the vaccine rendering it useless.
8. A decrease in consumption of water or feed is a common sign of illness in the flock.

Sample Test

Name _____

Test

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Part One: Matching

Instructions. Write the letter of the correct answer next to the statement.

A. All-in, all-out B. Intranasal vaccination C. Intraocular vaccination D. Wing web vaccination

- ___ 1. This vaccination method places the vaccine in the eye of the bird.
- ___ 2. All of the birds are brought onto the farm at one time and removed at the same time.
- ___ 3. This vaccination method places the vaccine in the web of the wing.
- ___ 4. This vaccination method places the vaccine in the nose of the bird.

Part Two: Short Answer

Instructions. Provide a short statement to answer the question.

- 5. What methods can be used to vaccinate an entire flock of birds?

- 6. Why should visitors not be allowed to enter a poultry house?

- 7. Why should healthy birds not be vaccinated?

- 8. What is one common sign of health issues in poultry?

Poultry Diseases

Chickens	Ducks	Geese	Turkeys
Arthritis/Synovitis	Arthritis/Synovitis	Arthritis/Synovitis	Arthritis/Synovitis
Aspergillosis	Amyloidosis	Duck Virus Enteritis	Aortic rupture
Avian (Fowl) Pox	Avian (Fowl) Pox	Avian (Fowl) Pox	Avian (Fowl) Pox
Avian Influenza	Aspergillosis		Aspergillosis
Avian Leukosis	Duck Virus Enteritis		Avian Influenza
Avian Vibrionic Hepatitis	Leucocytozoonosis		Avian Leukosis
Blackhead	New Duck Disease		Blackhead
Bluecomb (diff from turkey)			Bluecomb-diff from chick(Transmissible Enteritis; Mud Fever)
Botulism	Botulism	Botulism	Botulism
Cage Fatigue			Bumblefoot
Coccidiosis	Coccidiosis	Coccidiosis	Coccidiosis
Coliform infections	Coliform infections	Coliform infections	Coliform infections
Dietary Disorders	Dietary Disorders	Dietary Disorders	Dietary Disorders
Endemic Fowl Cholera			Degenerative Myopathy
Epidemic Tremor			Erysipelas
Fatty Liver Syndrome	Fatty Liver Syndrome	Fatty Liver Syndrome	Fatty Liver Syndrome
Fowl Cholera	Fowl Cholera	Fowl Cholera	Fowl Cholera
Hemorrhagic Anemia Syndrome			Hemorrhagic Enteritis
Inclusion Body Hepatitis			Hexamitiasis
Infection Bronchitis			Leucocytozoonosis
Infectious Bursal Disease			Muscle degeneration
Infectious Coryza			Ornithosis
Laryngotracheitis			Round Heart Disease
Mycoplasmosis	Mycoplasmosis	Mycoplasmosis	Mycoplasmosis
Mycotoxicosis	Mycotoxicosis	Mycotoxicosis	Mycotoxicosis
Necrotic Enteritis	Necrotic Enteritis	Necrotic Enteritis	Necrotic Enteritis
Newcastle disease	Newcastle disease	Newcastle disease	Newcastle disease
Omphalitis	Omphalitis	Omphalitis	Omphalitis
Poisoning	Poisoning	Poisoning	Poisoning
Round Heart Disease			Trichomoniasis
Salmonella and Paracolon Infections			
Ulcerative enteritis	Ulcerative enteritis	Ulcerative enteritis	Ulcerative enteritis

Example Poultry Records

Poultry Health Record						
ID Number	Sex	Age	Illness Symptom	Treatment	Date Treated	Cost of treatment

Poultry Death Record				
ID Number	Sex	Age	Date of Death	Cause

Poultry Disease Information

Use this chart to help you find information for your informative poster or pamphlet. You do not need to include pictures on this sheet but they should be included in your final product.

	Disease #1	Disease #2	Disease #3	Disease #4
Disease Name				
Species Affected				
Symptoms				
Cause				
Pictures of symptoms/disease				
Prevention and Control Measures				

