Backyard Poultry Health

Joe Walter
Brevard Agricultural Agent III
jwalter@ufl.edu
407-948-8810 cell
321-633-1702 ext 234

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IFAS Extension

The Most Important for Good Health

WATER

Cool
Clean
Close
Abundant

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Health

❖Definition of Health is the absences of disease

❖Transmission of disease:

- Direct (from one animal to another)
- Indirect (from one animal through an intermediate host to another animal)
- Transovian (from on animal through the egg to another animal)

- Disease may be caused by infectious agents (bacterial, viral, fungal, prion, and parasitic) which might be passed around by biting insects, wild animals, fecal contamination, sexual contact, air borne, or contaminated feed & water.

- Health problems may also occur from noninfectious causes (malnutrition, trauma, cancer, genetic defects, and environmental hazards like toxins, poison or extreme weather conditions).

Disease Prevention

- Disease prevention practices include purchasing healthy animals, isolation, quarantine, testing, and immunization (vaccination) programs. ONLY VACCINATE IF DISEASE IS IN AREA or CONDITIONS DICTATE.
- Remove sick animals early and dispose of them properly to prevent further spread of disease.
- Treatment might involve the use of antibiotics, medications or antiparasitic compounds.
- Control of rodents and wild birds
- Do not mix species of birds
- Buy birds from NPIP certified flocks/hatcheries
- Excellent powers of observation, an understanding of normal behavior, good sanitation practices, and diligent vaccination and deworming schedules are key components of animal health maintenance.

Recognizing Illness

One of the keys is to understand what is normal so that you can recognize what is abnormal.

Deviations from normal are early indicators that something may be wrong and may allow an early response.

- Normal Eating Behavior
- Normal Fecal Pattern & Consistency
- Normal Stance, Movement, Posture & Activity Patterns
- Group (Herd or Flock) Behavior
- Sounds or Acoustical Communication
- Normal Vital Signs – mostly respiration in birds
- Decrease in egg production

Recognizing Illness

- The best way to notice if there is a health problem in your flock is to keep good records of feed & water intake, death loss, and egg production rate or growth rate. Major changes from day to day can mean there is a disease in the flock.

- Take time each day to walk through the flock and notice the birds' actions and reactions, their movement, their sounds, any sneezing, coughing, or runny sinuses or swollen eyes.

Monitoring Health

- Monitoring health in farm animals that are mammals often includes assessing vital signs like body temperature, heart rate, and respiration rate. We do not typically monitor vitals in chickens.

- Poultry Vital Signs (good to know what normal is)

  - Relatively high body temperature 107.1 (105.0-109.4)*F
  - Very rapid heart rate 275 (250-300) beats per minute
  - Respirations of about 12-36 breaths per minute (since chickens don't have sweat glands, respiration is important for getting rid of heat and moisture from the body, therefore chickens pant when they are hot)

Beak and Nail Care

Toenail clippers are used to trim the bird's toenails to prevent injury to the handler as well as to other birds.

Pet nail clippers may be used or a simple pair of human toenail clippers will work also.

Syringes

- Syringes are plastic tubes with a vacuum plunger that are used to administer medications or vaccinations to poultry.
- Select a syringe with the correct capacity to ensure accuracy of dosage delivery.

Needles

Needles are small metal tubes with a sharp pointed end that are used along with a syringe to administer medications and vaccinations to poultry.

Needles come in various diameters and lengths. The diameter is measured in gauges. The gauge number increases as the diameter size decreases. (Ex. A 20 gauge needle is smaller than a 14 gauge needle.

Needles Commonly Used for Poultry

- Use size needle appropriate for the animal and the medication to be given
- Poultry require a small gauge needle, 20 -25 ga
- Lengths of ½" to ¾"
- A good choice of syringe and needle combination for poultry is one that is used by diabetics. This is a 1 ml (cc) syringe with a 21-25 ga ½" needle attached.

Vaccine

Vaccines are used to prevent diseases in poultry just as they are used to prevent diseases in humans.

Different vaccines are administered using different methods.

The Fowl Pox vaccine is administered using the Wing Web Vaccinator (which is a two pointed needle with indentations in each needle) is dipped into the vaccine and then pushed through the wing web of the fowl.

External Parasite Control

Sevin Dust (Carbaryl Powder) or any other product appropriately labeled for poultry use powder or spray can be used to treat birds for external parasites:

- lice
- mites
- ticks

Probiotics

A probiotic provides necessary bacteria that aides in digestion.

Administering Medications & Vaccinations

In choosing how and where to give medications and vaccines, consideration should be given to:

- Manufacturer's instructions (READ THE LABEL)
- Ease of application
- Least stress on the birds

Methods Used

- Intramuscular (in the muscle)
- Subcutaneous (under the skin)
- Ocular (eye drops which flow through duct to respiratory tract)
- Nasal (drops in the nostrils)
- Orally (water or food supply)
- Wing Web (puncture the skin on the wing web with a double needle dipped in vaccine)
- Aerosol (sprayed in air over birds)
- In-Ovo (through the shell of an 18 day incubating egg)

Quality Assurance

- Since most chickens end up in the human food chain, the poultry industry has established Quality Assurance standards for producers.
- Problems and concerns for food safety fall under 3 areas:

  - Injection site management
  - Residue avoidance (antibiotics, chemicals and feed contaminations)
  - Foreign object avoidance (broken needles)

How to Give an Injection

- READ THE LABEL
- READ THE LABEL
- READ THE LABEL

- Determine type and amount of injection
- Determine size of needle (gauge and length)
- Mix medication if necessary
- Restrain the animal
- Wipe top of medication vial with alcohol (not with MLV)
- Secure needle onto syringe and remove guard

How to Give an Injection cont'

1. Draw plunger back filling syringe with air equal to the dosage to be administered
2. Push needle through rubber stopper in vial
3. Push plunger to force air into vial
4. Turn vial upside down causing liquid to cover end of needle
5. Draw up the desired amount of medication
6. Turn vial right side up and remove needle from vial
7. CAREFULLY cap needle until ready to give injection

How to Give an Injection cont'

Two type of injection generally used for poultry:

a. Subcutaneous (Sub Q)
b. Intramuscular (IM)

Use Sub Q if possible

a. Abscesses
b. Scar tissue
c. Reduces carcass value(these areas have to be trimmed)

Sub Q Proceedure

a. Tent skin on back of neck or between thigh and abdomen
b. Insert needle into fold of skin
c. Push plunger to expel medication
d. Remove needle
e. **CAREFULLY** replace cap on needle

How to Give an Injection cont'

Intramuscular

a. Insert needle into the breast or the thigh
b. Push plunger to expel medication
c. Retract needle
d. **CAREFULLY** replace needle cover

Details to Remember

- Always use sterile equipment
- Dispose of used equipment properly
- **READ THE LABEL and FOLLOW INSTRUCTIONS**
- Record what you did
    a. Amount given
    b. Date
    c. Site
    d. Lot number of medication and expiration date
    e. Who you administered it to
    f. Method of administration
    g. End of withdrawal period

Dosage Calculation

- **READ THE LABEL**
- **READ THE LABEL**
- **READ THE LABEL**
- Proper amount of medication is very important for the health and safety of the animal
- Labeled dosage is the law
- Failure to follow the label is a violation of Federal Law

Dosage Calculation Example

- A three pound chicken requires an injection of antibiotic.
- The labeled dosage is 2,500 units/pound.
- The bottle contains 5,000 units/ml.
- The bottle contains 100 ml.
- The label states ‘to be administered IM or Sub Q’
- How much antibiotic should be given and how should it be administered?

The Math

Step 1: Calculate how many units a 3 pound bird needs.
2,500 units per lb X 3 lbs = 7,500 units

Step 2: Calculate the volume of antibiotic that needs to be given in order to give the correct dosage.
7,500 units / 5,000 units per ml = 1.5 ml

Step 3: Label gives choice of IM or Sub Q:
method of administration would be Sub Q

Answer: **Administer 1.5 ml Sub Q**

Dosage Calculation for Treating a Whole Flock

- You own 3,200 broilers that are experiencing respiratory problems. Your Veterinarian has diagnosed your flock with Chronic Respiratory Disease (CRD) and recommends you treat them with water soluble powder Carramycin-152 for 10 days starting 1-12-2015.
- The label directions instruct you to give the broilers 800 mg Oxytetracycline HCL per gallon of water for 7-14 consecutive days.
- The Active Ingredients List tells you that this 4.78 oz package contains 102.4 grams of oxytetracycline HCL (after mixing with clean fresh water 128 gallons contains 800 mg oxytetracycline HCL per gallon)

How to prepare the medicine

- How many packs of Carramycin-152 do you need to mix with 2 gallons of water to make the stock solution?
- The Recommended Dosage tells you that for treating CRD in poultry you should mix 2 packs of medicine to 2 gallons of water for the stock solution.
- How much stock solution do you mix with 1 gallon of drinking water?
- The Recommended Dosage tells you to mix 1 ounce of stock solution to 1 gallon of drinking water.

The Math

- How many packs of Carramycin-152 must you buy to treat your 3,200 broilers for 10 days? You know that your broiler flock drinks approximately 256 gallons of water per day.
  - 1 cup = 8 oz
  - 4 cups = 1 qt = 32 (4*8) ozs
  - 4 qts = 1 gal = 128 (4*32) ozs
  - 2 packages of medicine will prepare 2 gallons of stock solution which will make 256 gallons of drinkable medicine
    - 2 gals of stock solution = 256 (2*128) ozs
    - 256 ozs @ 1 oz per gal = 256 gals of drinkable medicine

    ➢ (256 gals used per day) = 2 packages of medicine * 10 days = **20 packages** of medicine to complete the full treatment

How much does each bird in the flock receive

- How many milligrams (mg) of oxytetracycline HCL will each broiler receive each day?
- 3,200 birds drink 256 gallons per day
- The Active Ingredients List in the label tells you that this 4.78 oz package contains 102.4 grams of oxytetracycline HCL (after mixing with clean fresh water 128 gallons contains 800 mg oxytetracycline HCL per gallon)

  ➢ 256/3200 = .08 gals per bird per day

  800 mg of oxytetracycline per gal

  800 * .08 = 64 mg of oxytetracycline per bird per day

Calculate the withdrawal time

- What is the first day that you could safely sell your broilers for food or use the eggs if they were layers?
- The label and directions indicate that you cannot eat the meat or eggs from birds receiving this medication for 5 days after their last dose.
- Started medication on 1-12-2015 and continued for 10 days through 1-21-2015
- The withdrawal time is an additional 5 days
  - 1-21-2015 + 5 days = 1-26-2015 so the meat and eggs are not safe to eat until **1-27-2015**

Internal Parasites

- Large Round Worms
- Cecal Worms
- Capillaria Worms (small round worms)
- Eye worms
- Gapeworms
- Gizzard worms
- Coccidia (a protozoa)

Internal Parasite Treatment

- The only approved (Labeled)deworner for poultry is Piperazine and it has limited effectiveness
- Hygromycine B, Levamisole, Ivomectin, and others have been shown to be effective but are not labeled for use in birds that meat or eggs enter the human food chain.
- Prevention is the most effective management of Internal Parasites:
  - Remove litter between flocks
  - Keep litter dry
  - Avoid overcrowding
  - Keep wild birds away
  - If free range, keep birds from plowed ground where insects and worms are likely
  - Move shelters frequently
  - Use insecticides to control insect populations

Questions?