POULTRY SKILL-A-THON 2019

INTRODUCTION

This manual has been developed as a study guide for the Southeastern Youth Fair Skill-a-thon, and is adapted from the Florida State Fair study guide.

The topic for this year's skill-a-thon is:
Health Care Management

The Southeastern Youth Fair recognizes that agricultural education instructors, 4H agents, parents, and leaders provide the traditional and logical instructional link between youth, their livestock projects and current trends in the animal agriculture industry.

PLEASE NOTE: This manual is provided as a ***study guide*** for the skill-a-thon competition and should be used as an additional aid to ongoing educational programs. Sections are labeled **Junior, Intermediate & Senior, Intermediate & Senior, or Senior** to help exhibitors and educators identify which materials are required for their age level.

Juniors (age 8-10 as of September 1, 2018)
Body Parts
Restraint
Intermediates (age 11-13 as of September 1, 2018)
All of the above plus...
Health Supplies
Animal Identification
How to give an Injection, Injection Sites
Seniors (age 14-18 as of September 1, 2018)
All of the above plus....
Medication Label Identification
Withdrawal Times & Medical Calculations

JUNIORS, INTERMEDIATE and SENIOR TESTABLE KNOWLEDGE:

Animal Health

Assuring animal health is a primary responsibility of livestock managers. Failure results in animal suffering, decreased productivity and potential threats to human health. Animal health is so important that the United States Department of Agriculture has a Health Inspection Service to work with the livestock industry in disease prevention. Concerns over bioterrorism and potential threats to human health have brought animal health concerns into the spotlight in recent years. 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 and 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 practices include purchasing healthy animals, isolation, quarantine, testing, and immunization (vaccination) programs. In extreme cases animals are sometimes destroyed to prevent

further spread of disease. Treatment might involve the use of antibiotics, medications or anti parasitic compounds. 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. How do you know if an animal is healthy or not? One of the keys is to understand what is normal so that you can recognize what is abnormal. This is a skill that develops after working with and caring for livestock over time. The following are some of the characteristics that serve as the basis for assessing animal health. Deviations from normal are early indicators that something may be wrong and may allow early response.

Normal Eating Behavior
Normal Fecal Pattern and Consistency
Normal Stance, Movement, Posture and Activity Patterns
Group (Herd or Flock) Behavior
Sounds or Acoustical Communication
Normal Vital Signs

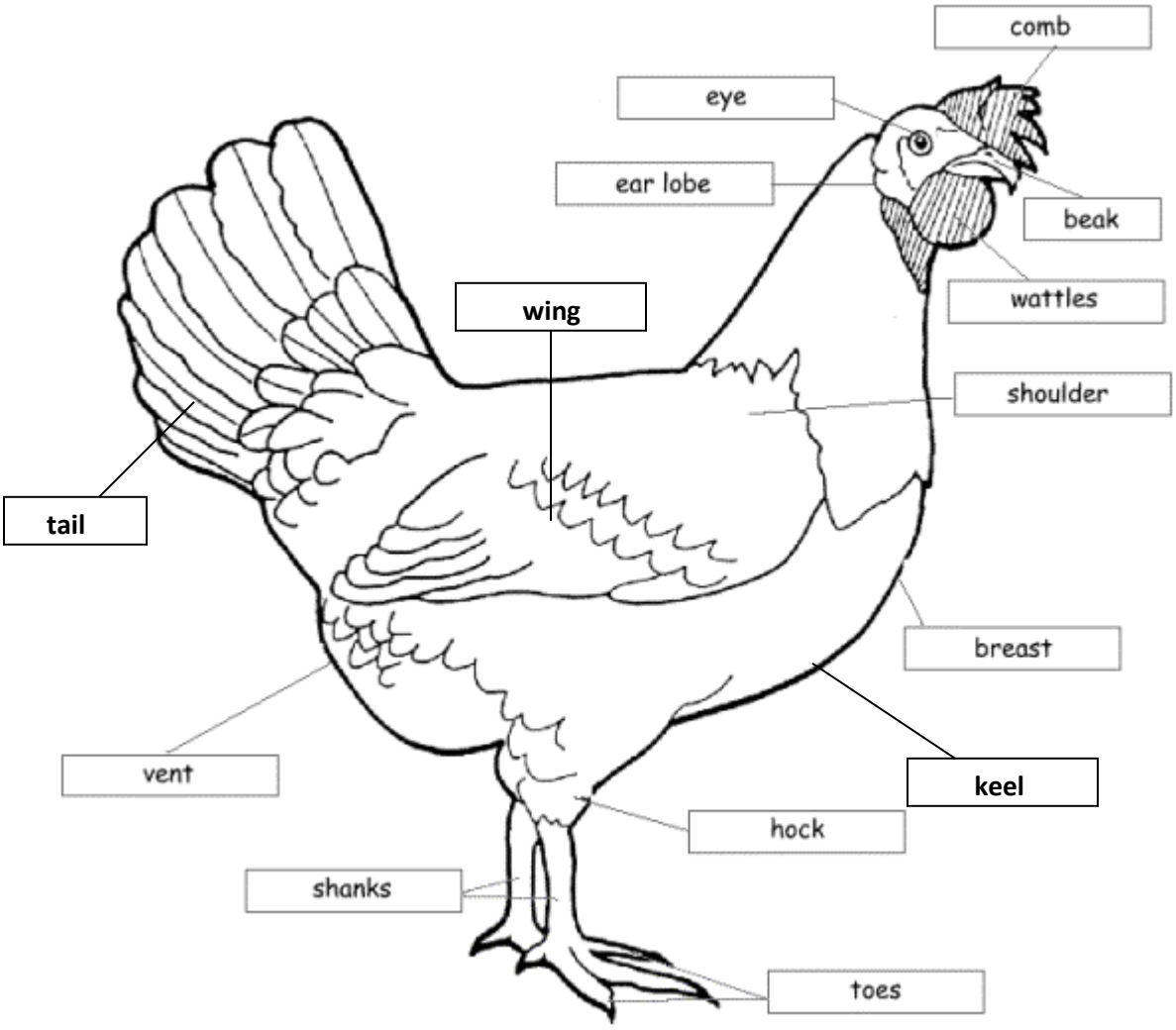
Recognizing Illness**
The best way to notice if there is a health problem in your flock is to keep good records of feed and water intake, death loss, and egg production rate (for laying hens) or growth rate (for broilers). Major changes from day to day can mean there is disease in the flock. Caretakers should take time each day to walk through the flock and notice the birds' actions and reactions, how they are moving about, what sounds they are making, and if they are sneezing or coughing. 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 vital signs in chickens. Since birds are designed to fly, they are very different from land animal species in these signs. They have a relatively high body temperature of 107.1 (105.0 – 109.4) °F and a very rapid heart rate of around 275 (250-300) beats per minute. Chickens normally take 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.

Restraint
In order to carry out routine animal health care practices, animals must be prevented from moving about freely. Methods of restraint could be put into five categories.

1. Psychological – knowledge and anticipation of natural behaviors to accomplish task
2. Train or desensitize – repeat exposure to stimulus
3. Confinement – cages, crates, walls or barriers
4. Tools and physical force – leg hooks, light weight rope, holding
5. Chemical sedation or immobilization – potentially dangerous, should not be used without veterinary supervision.

Whichever method or methods are employed, it is important to use common sense, plan ahead, be safe and always use SELF CONTROL. Haste is the enemy. Ask the following questions: Will the method minimize the danger to the handler? Will the method minimize the danger to the animal? Will the method cause unnecessary pain or fright? Will the method allow the management technique to be completed as necessary? If any of the questions are answered negatively, other restraint methods should be used.

CHICKEN BODY PARTS



Chicken Body Parts
It is important for livestock producers to share a common language. Using the correct names for various body parts is one way to be certain your message is understood. Study the pictures with the names of the body parts labeled so that you can communicate with other producers using correct terms.

Methods of Animal Identification
Possible methods of poultry identification include: toe punching, wing banding and leg banding.

TOE PUNCHING
Advantages - This is the simplest of the permanent identification methods.
Disadvantages - The older the chick, the more likelihood for bleeding and other chicks to pick at the toes.
Equipment Necessary - Toe Punch

Procedure:

1. Toe punching should be done on chicks between hatching and 4-wks of age. Hold the chick with one hand, using your thumb and index finger to steady the leg and shank and expose the web between the toes for punching.
2. With your free hand, apply the toe punch to the web between the toes. Center it in the web. Make a clean-cut hole.
3. Remove the punched-out skin from the hole.
4. Using the webs on each foot, in all possible combinations, 15 identification patterns are possible.

As the bird grows in size, the hole also grows and can be easily seen.

WING BANDING

Advantages - Lightweight and can be stamped with any combination of letters or numbers and/or color coded. The letters and/or numbers are pre-stamped by the manufacturer.

Disadvantages - Some chicks catch their band on a pen or by their toe-web, and may be unable to free themselves. The chick may eventually free itself by tearing the band through its wing.

Equipment Necessary - Wing Bands, Pliers

Chicks

Procedure:

1. Pick up the chick with your left hand, with its head up and pointed toward your fingertips. Position its body in the palm of your hand, with its head up between your middle and ringfingers. Use your ring and little fingers to hold the body, with your little finger between its legs. Place your middle and index fingers over the chick's back and over the top of its wing so that the web is under your fingertips. Use your thumb and index fingers to grasp and spread the wing to expose the web.
2. Grasp the band with the rivet and bent end between the thumb and index finger of your free hand, with the pointed end free and facing up and away from the thumb, ready for insertion in the web.
3. With the pointed end, come up through the web from the underside, aiming the point between your index and middle fingers, which lie on top of the web.
4. Bring together the open ends of the bands so that the rivet goes into the hole in the pointed

end. The thumb and index finger of the hand holding the chick can be used to press and hold the open ends together until the rivet is set.
5. Use the hand that inserted the band to pick up the banding pliers and flatten the head of the rivet so that it cannot slip out of the hole.
6. To help in finding the bands on the birds later on, band all chicks on the same wing.

Adults (wing-badges)

Procedure:

1. One person holds the hen by its legs in one hand, with the palm of the other hand under its keel. Hold the bird out in front with its body upright and facing a badger at the height convenient for him/her to work on the wing.
2. The badger slips the clasp of the badge over the wing at the shoulder so that it can be read from the side.
3. Lock the ends of the clasp together.

4. Adjust the feathers of the wing so that they fit under the badge and clasp in such a manner that the numbers are not hidden.

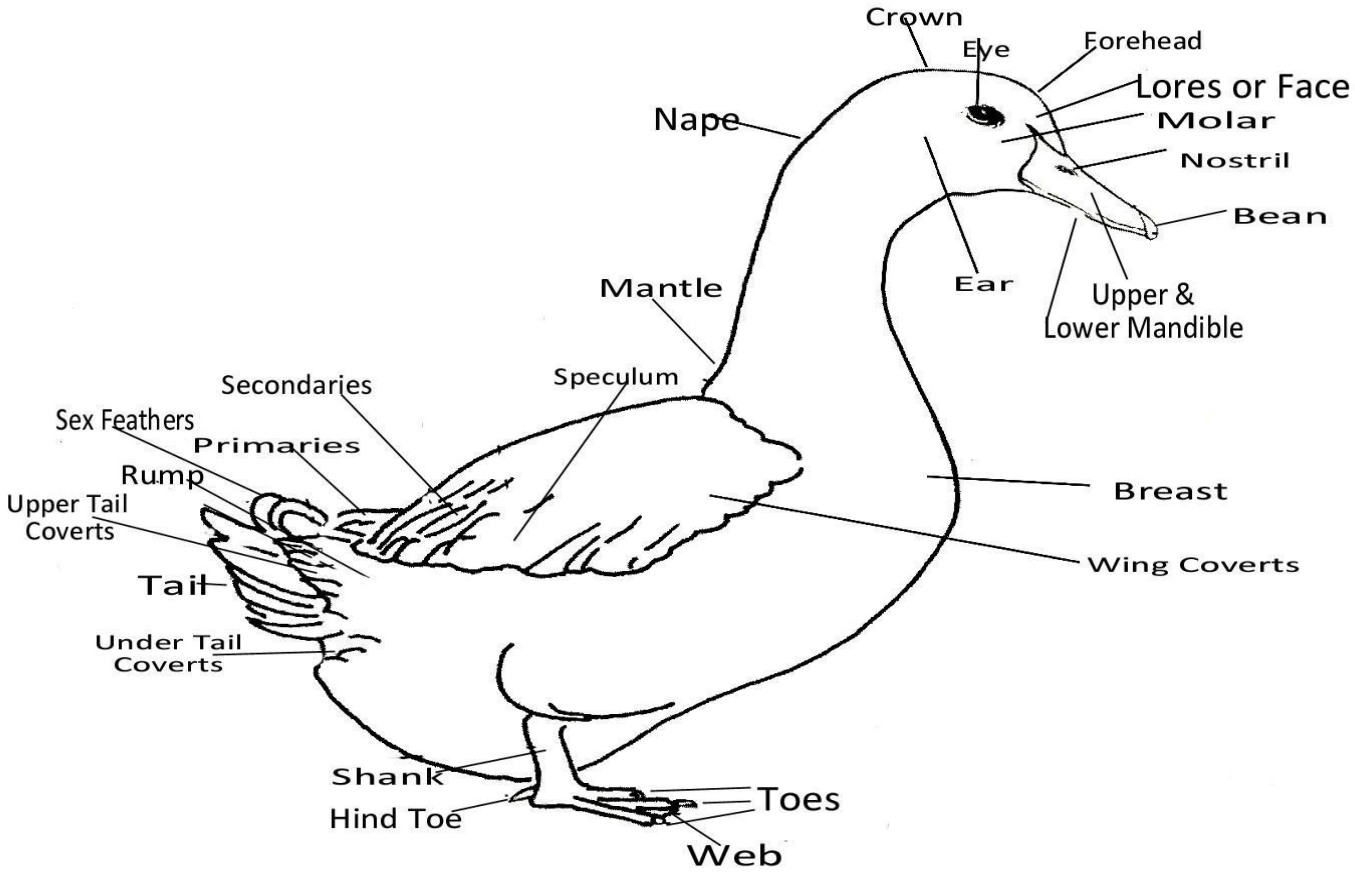
LEG BANDING

Advantages - Lightweight and can be stamped with any combination of letters or numbers and/or color coded. The letters and/or numbers are pre-stamped by the manufacturer. Less likely to be lost than wing bands. Easily slipped over the shank. This band can fit a small one pound bird to a 40 pound turkey. Fits loosely enough not to cut shank.
Disadvantages - The need for a two-person approach is recommended.
Equipment Necessary - Leg Bands (there are various types) Leg Rings Pliers

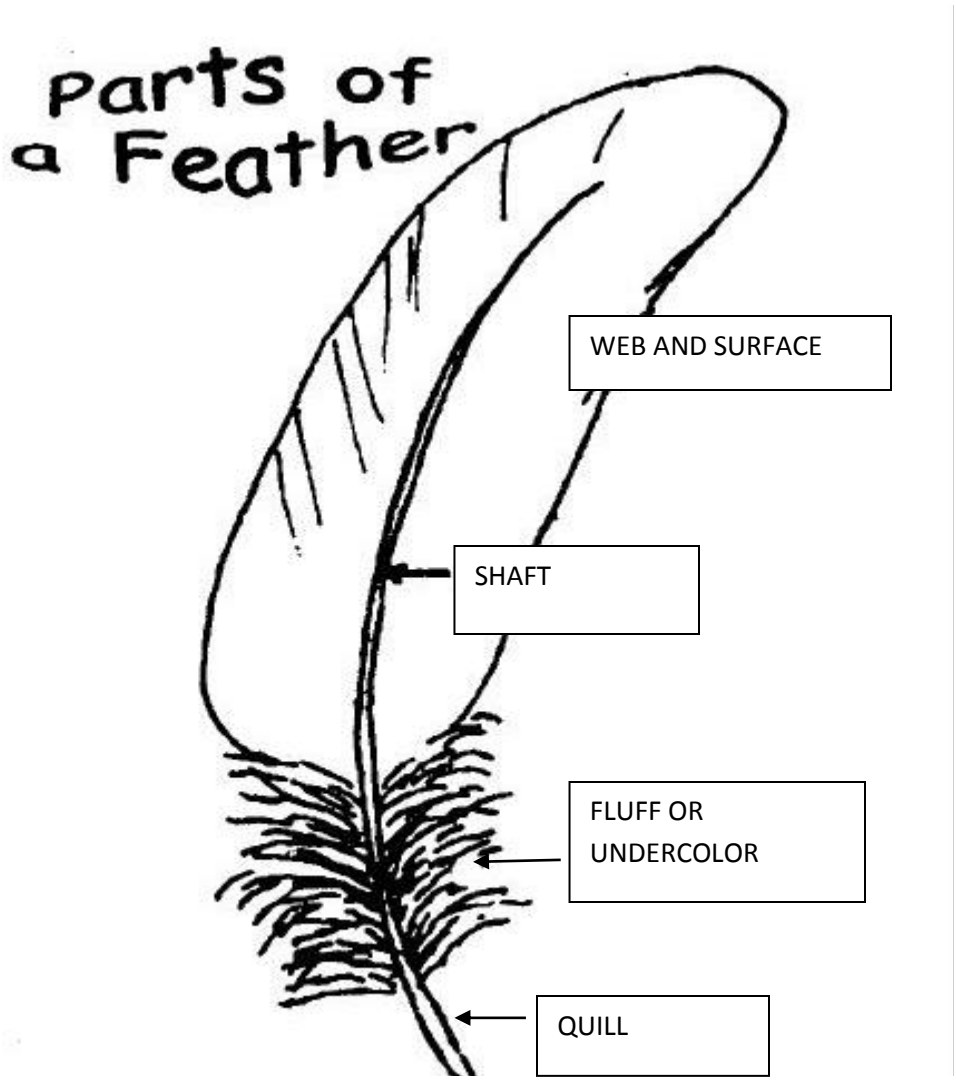
Procedure:

1. Sit with the bird in your lap facing you , its legs stretched to its rear and its hock joints positioned above one knee.
2. Cross one of its legs over the other, bringing it down between your knees. Hold the shank and foot of this leg with your knees.
3. The other leg remains stretched out across your knee and is held in place by the crossed-over leg.
4. Slip the spiral band over the shank as you would slip a key onto a spiral key ring.
5. With an aluminum band, wrap it around the shank and put the rivet of the one end in the hole of the other. Hold the two ends together with the fingers of one hand. Squeeze the rivet with banding pliers just enough to cause the rivet to mushroom and form a seal.

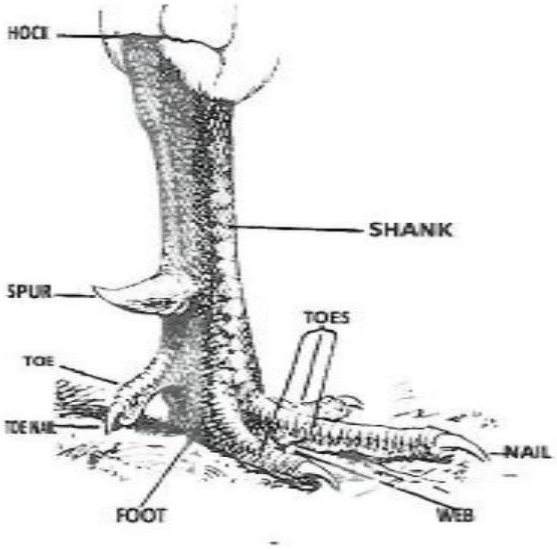
External Parts of a DUCK



PART S OF THE FEATHER



INTERMEDIATE AND SENIOR TESTABLE KNOWLEDGE:



Poultry Health Supplies
Research the following items and practices to gain knowledge of their purpose in poultry production. Be prepared to identify these items and explain their use. Poultry equipment supply catalogs are a good study resource. Some have photographs on their web sites.

- Beak trimmer
- Catching hooks
- Dewormer
- Disinfectants/sanitizers
- Heat lamp
- Leg bands, wing bands
- Pliers
- Toenail clippers
- Needles
- Probiotic
- Sevin Dust
- Syringes
- Vaccine
- Wing Web Vaccinator

Administering Medications and Vaccinations
As a routine part of flock health management, producers must administer medicines and vaccines. In choosing how and where to give medications and vaccines, consideration should be given to manufacturers instructions, ease of application and reduction of stress on the birds. The possible ways include: ***intramuscular*** (in the muscle), ***subcutaneous*** (under the skin), ***ocular*** (eye drops which flows 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) ***aeroso***l (sprayed in air over birds), and ***in-ovo*** (through the shell of an 18 day incubated egg). Because most broiler chickens end up in the retail case, 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) and foreign object avoidance (broken needles). For recommendations on poultry quality assurance programs visit: http://animalscience.ucdavis.edu/avian/qap.htm

How to Give an Injection

Vaccines and many medications must be given by injection. When learning to give an injection, some of you may find it easier to practice on an orange or banana because fruit cannot feel pain. The discomfort that an animal getting a shot feels is similar to the discomfort that you feel when you get shots from your doctor. When giving an injection to an orange or banana, we must remember that it is somewhat different than giving an injection to a live animal. The live animal may move around and the skin may be harder to get the needle through. There are two main types of injections - ***subcutaneous*** (Sub-Q) or ***intramuscular*** (I.M.). The subcutaneous injection is given just under the skin and the intramuscular injection is given within the muscle tissue. On your orange, the peel is comparable to the skin on an animal, the orange sections are comparable to the muscles and the area in between these two is the comparable to the subcutaneous space. To draw up an injection, wipe the vial top (rubber stopper) with an alcohol moistened cotton ball to disinfect it. Make certain the needle is securely attached to the syringe by inserting the plunger portion of the syringe into the open end of the syringe and twisting the needle onto the syringe tip. Remove the cap - do not touch the needle. Draw the plunger back to fill the syringe with an amount of air equal to the amount of vaccine you want to inject. Push the needle (with syringe) through the rubber stopper of vaccine and inject air - this prevents a vacuum from forming as you draw the vaccine out. Turn the vaccine vial (with needle/syringe still inserted) upside down, and draw out the desired amount of vaccine. Turn vial right-side up, remove needle/syringe, and cap needle until ready to use.

To give a subcutaneous injection:

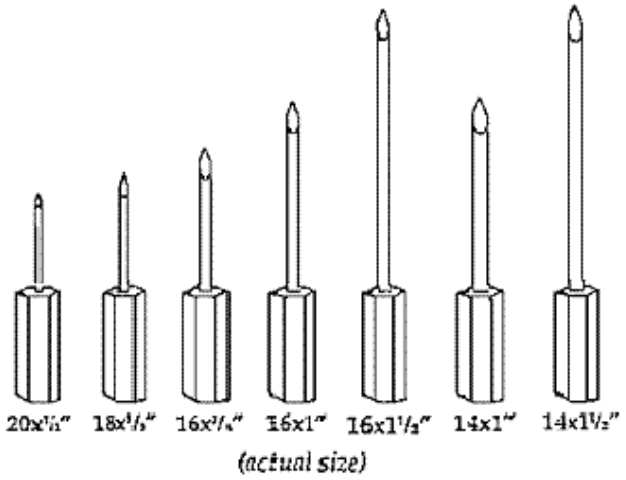
Place the needle just under the skin by picking up a fold of skin on the back of the neck or the leg fold between the thigh and abdomen. Insert the needle just under the fold of skin. Push the plunger to expel the injection into the animal.

To give an intramuscular injection:

The needle must penetrate the muscle. Draw up the material as before and insert the needle into the muscle. Push the material into the animal with the plunger. When the syringe is empty, remove the needle and syringe from the animal making sure that the needle is still attached and replace the cap to prevent injury. Intramuscular injections should be given in the breast or thigh. Injection site blemishes may include abscesses or scar tissue. Packers and processors may have to trim away product from this area. If given the option of subcutaneous or intramuscular, always choose subcutaneous. Always use sterile equipment as dirty equipment could cause infections at the injection site. Remember to dispose of all needles and biological wastes properly. It is important that you consult your veterinarian before giving any shots and always READ THE LABEL and FOLLOW INSTRUCTIONS. Proper animal identification and record keeping

are vital components of your flock management program. Remember to always WRITE IT DOWN.

Needle Selection
Investigate needle gauges to find the correct size for your project animal. Gauge number increases as needle diameter decreases. Needle length will also vary. For their poultry, some people commonly use pre-packaged diabetic syringes (1cc) and needles.



(actual size)

Addition - SENIOR TESTABLE KNOWLEDGE:

Calculating Dosages
Proper dosing is critical in order for medications to be effective and to prevent problems from too much medication. Always read medication labels carefully when calculating doses.

Example: A sick 3 pound chicken requires an injection of antibiotic at a dosage rate of 2,500 units/pound. The antibiotic to be used contains 5,000 units/ml. How much antibiotic should the producer give to the animal?

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

Step 2: Calculate how many mls. of the antibiotic would deliver the needed units.
7,500 units / 5,000 units/ml = 1.5 mls.

Medication Labels
Manufacturers of pharmaceutical products follow strict guidelines in labeling their products. Understanding what is on the label and how to use the information is a critical skill for livestock health care management.

Calculating Withdrawal Times
Drugs that are not completely eliminated from the chicken can accumulate in muscles and eggs. Drugs and their by-products in food are called residues and can be harmful to humans if they are consumed. Withdrawal periods times on labels tell how many days must pass before the meat or eggs are safe to eat. Be prepared to read a medication label and calculate when to administer booster shots, withdrawal times, etc.

Month 1:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3- Gave Shot	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18- Harvested Chicken	19	20	21
22	23	24	25	26	27	28
29	30					

Month 2:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

QUESTIONS:

Looking at the two monthly calendars, if a medication that had a 32 day withdrawal time was administered on the 3rd of Month 1, is it proper protocol for the animal to be harvested on the 18th? Why?

Using the two calendars above, when could your animal be safely harvested if administered the antibiotic on the 3rd?

Major Poultry Diseases

Disease	Cause	Signs	Prevention	Treatment
Avian Influenza	Virus:	Drop in egg production; sneezing; coughing; drowsiness; death; select eggs and poults from clean flocks	Vaccinate	No effective drug available
Coccidiosis	Protozoa Coccida	Weight loss; un-thriftiness; paler; blood in droppings;	Use coccidiostat	Sulfa drugs in drinking water

		lesions in intestinal wall	(kills coccidian organism).	
Fowl Cholera	Bacteria	Fever; reduced feed intake; purplish head, greenish-yellow droppings; death	Sanitation; rodent control; isolation of new stock; vaccination	Sulfonamides and antibiotics
Fowl Pox	Virus	Small clear to yellow blister on comb and wattles that soon scab over, decreased egg production; reduced feed efficiency	Vaccinate; Control mosquitoes	None
Infectious Bronchitis	Virus	Gasping; wheezing; nasal discharge; drop in egg production; soft-shelled eggs	Inactivated and live vaccines	None
Lymphoid Leukosis	Virus:	Combs and wattles may be shriveled, pale, and scaly; enlarged, infected liver; lesions common in liver and kidneys.	Sanitation; development of resistant strains through breeding methods	None
Marek's Disease	Herpesvirus	Sudden death; weight loss; paralysis; diarrhea	Vaccination of day old chicks	None
Newcastle Disease	Virus	Gasping, coughing, hoarse chirping; twisting of the neck; paralysis; sever drop in egg productions; soft shelled eggs; death	Vaccination	None
Tuberculosis	Bacteria	Unthriftiness; lowered egg production; death	Sanitation; put disease-free birds in a clean house or on clean ground	None

POULTRY SHOWMANSHIP ATTIRE:

Required Dress Code: All exhibitors are required to be clean and neat in appearance. They should be dressed in white, green, dark blue or dark black jeans or slacks with a solid white shirt with a white collar. FFA and 4-H accessories are strongly recommended. No caps or hats. Close-toed shoes or boots are required. Shirts must be tucked in.

<u>Appearance and Attitude of Show person:</u>

- Clean, conventional clothing

- Follows instructions of judge. Keeps attention focused on bird and judge
- Considerate of other exhibitors

Appearance of Bird:

- Clean, unbroken feathers
- Good body condition (correct size for age and breed)
- An outward appearance of good health
- Tame and manageable (obvious signs of training at home)

Showmanship:

- Removing and returning bird to cage, carrying bird to judging table
- Posing and presenting the bird to judge or transferring to another person
- Display and examination of various parts; head, wings, body width, feet and legs, abdominal cavity

Knowledge of Poultry in general and specifically of breed exhibited:

- Give the breed, variety, and sex of your bird
- What was the original purpose of this breed?
- How did you prepare the bird for this show
- Explain the type of feed you use
- Other

Showmanship Reference Material:

Website: http://www.apa-abayouthprogramsite.org

Material of knowledge suggestions for each age group may be found under the "EDUCATION" heading, and then refer to "Showmanship". This website also has a store with books relating to poultry rearing, including the American Poultry Association Standard of Perfection and the American Bantam Association Standard from which all fancy purebred classes are judged. These books also have the complete breed identification, history and more about purebred birds. The National 4-H Showmanship Manual is also available.

For Additional Study Info:

See links available on Chicken page at SEYF website