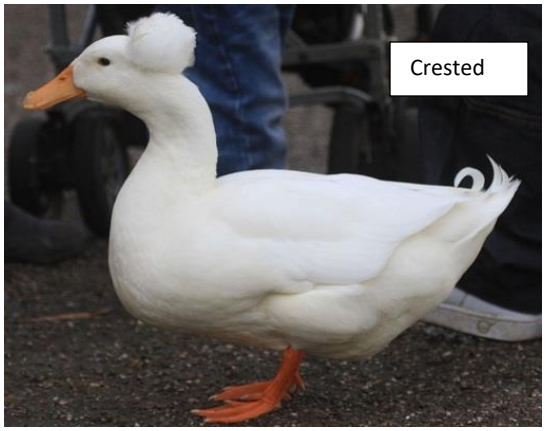
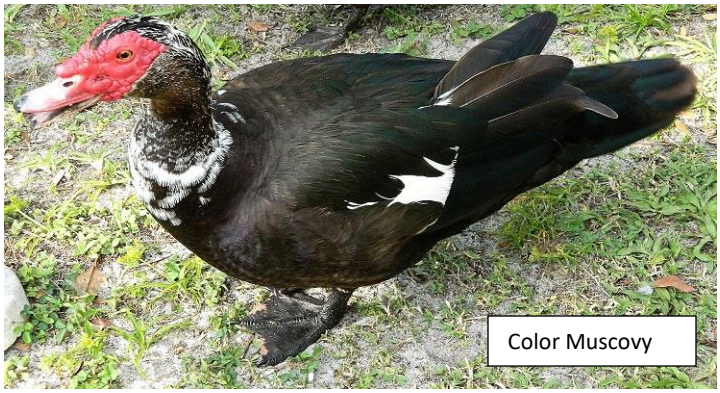

White Indian Runner


Crested

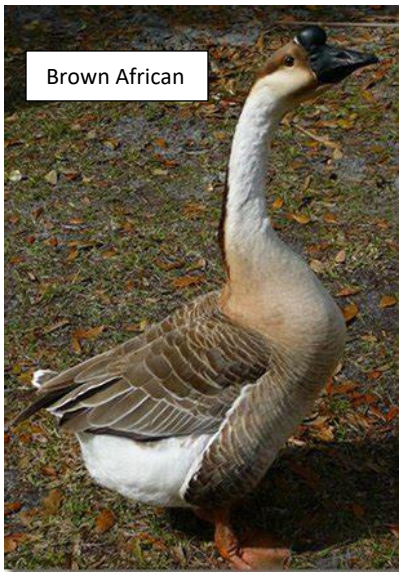

Pekin

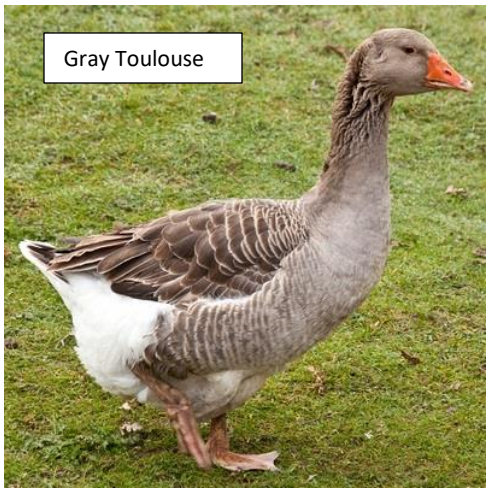

Sebatopol

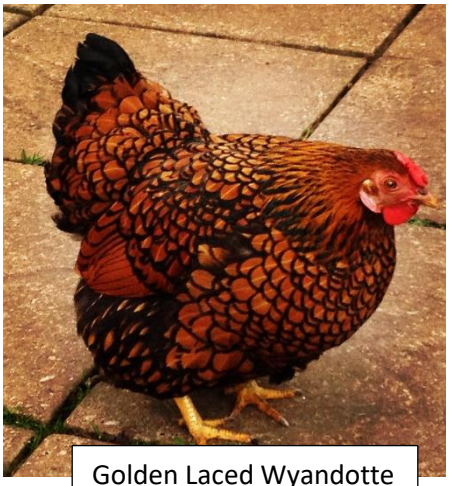

Color Muscovy


Bourbon Red

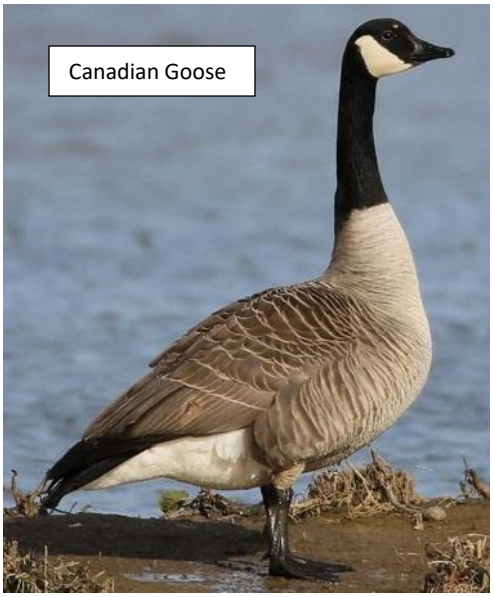

Grey Saddleback Pomeranian


Brown African

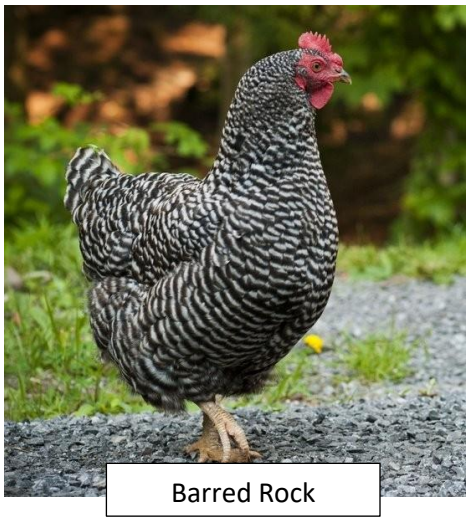




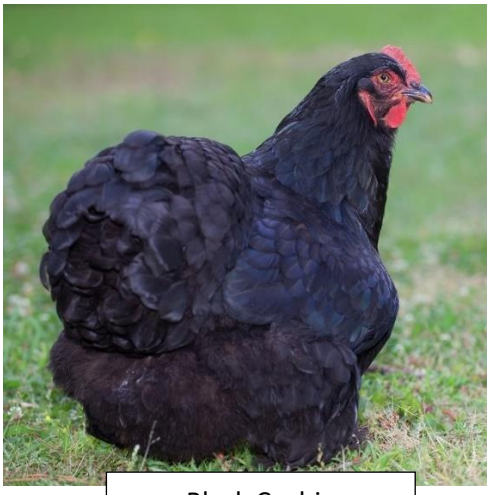
Golden Laced Wyandotte



Barred Cochin



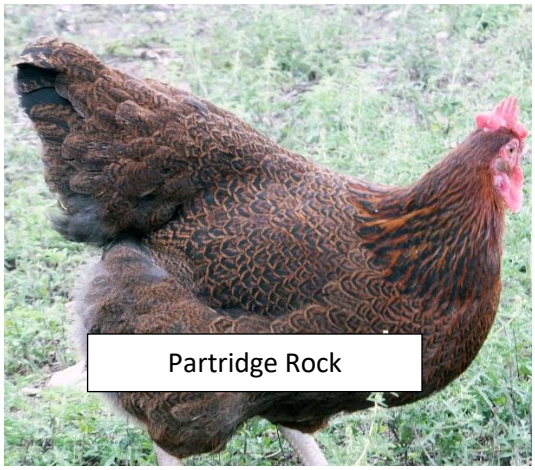
Barred Rock



Black Cochin

Gray Call Duck

Rhode Island Red



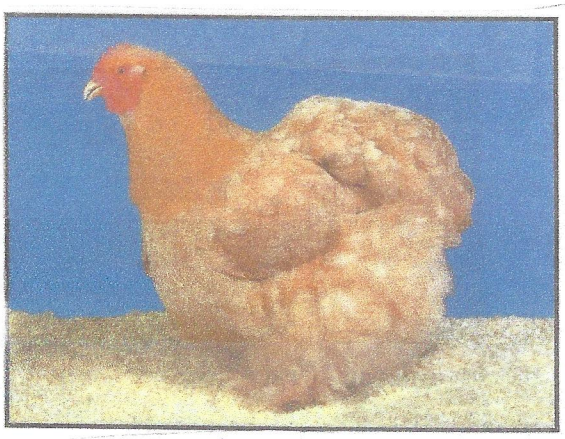
Partridge Rock

Silver Laced Cochin

White Call Duck

Silver Laced Wyandotte

Silver Phoenix

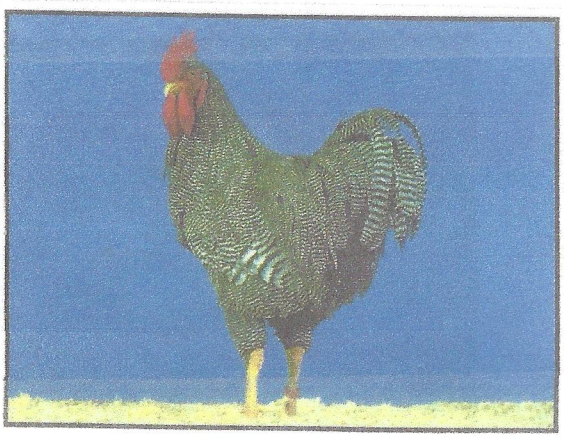


Cochin - Buff

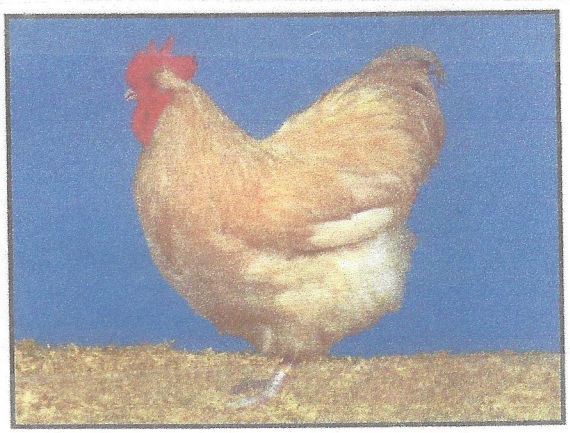
Langshan - Black

Wyandotte - White

Plymouth Rock - White

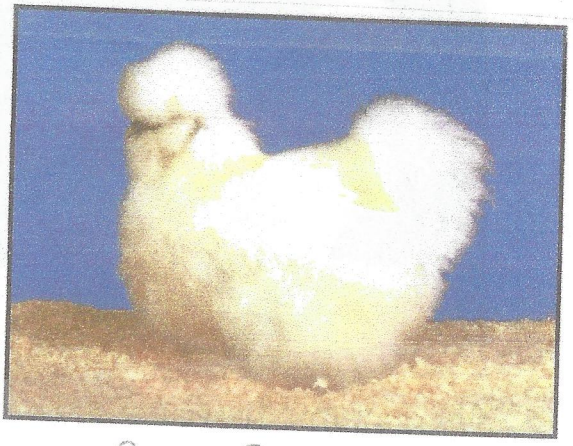


Plymouth Rock - Barred

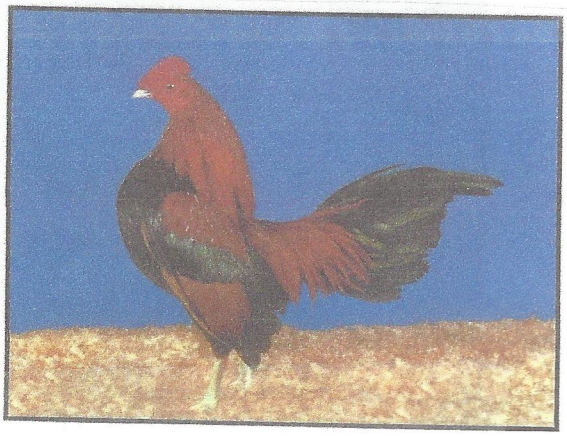


Orpington - Buff

Leghorn - Single Comb White

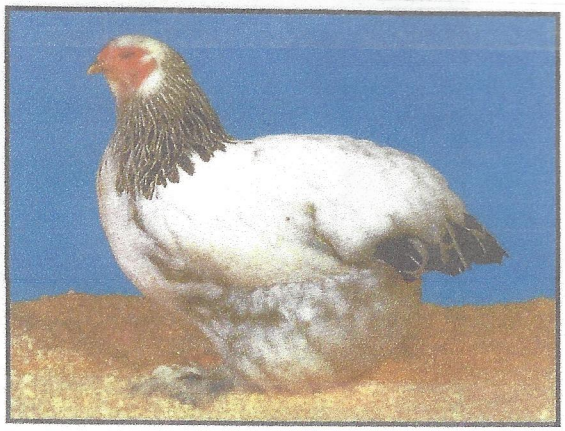


Silkie - Bearded White



Old English Game - Black Breasted Red

Sebright - Silver

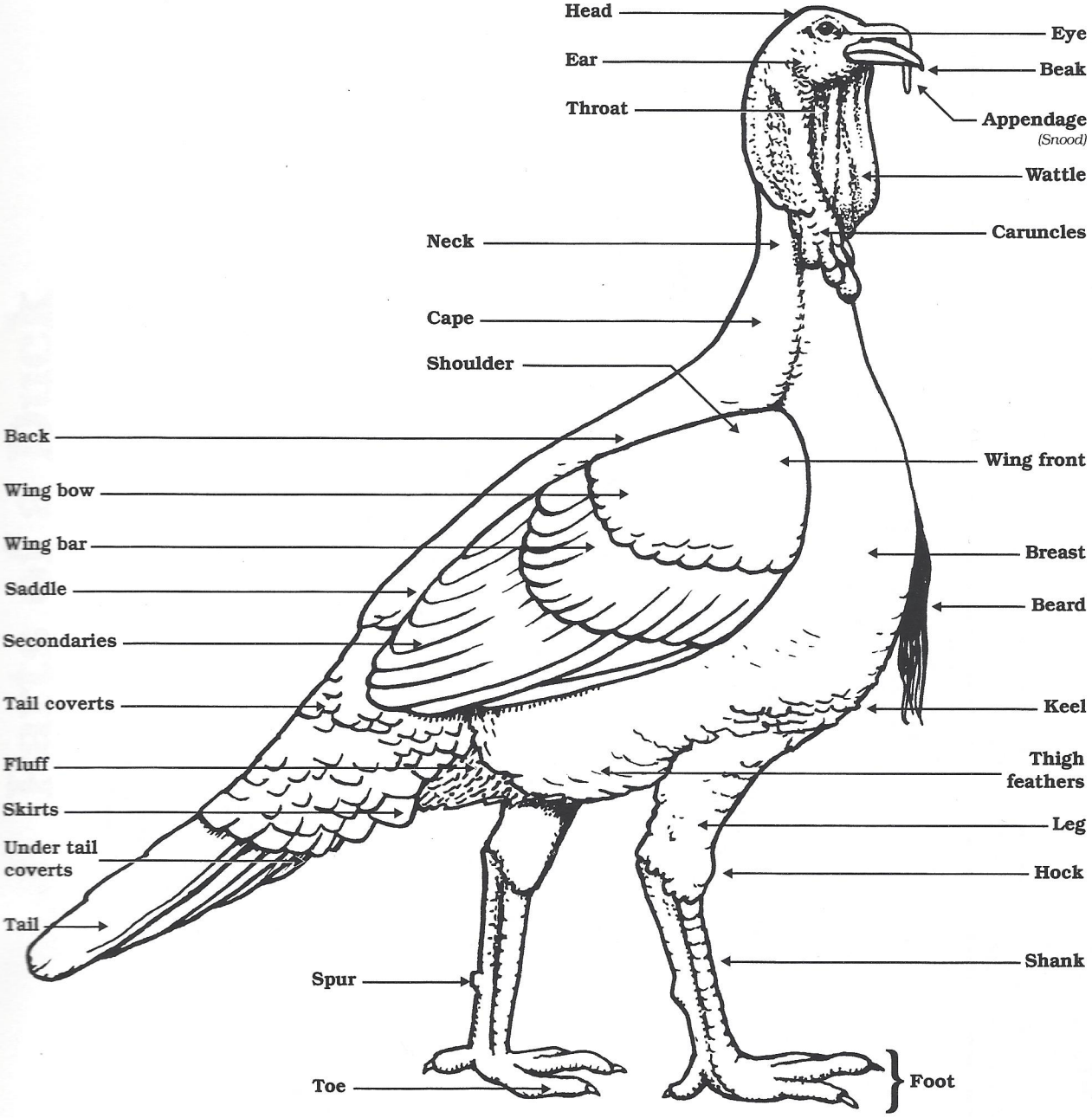


Brahma - Light

Cornish - White

Use this poster in conjunction with **Anatomy: Match Part with Location** *situation/task statement and* **Parts of a Turkey** *identification tags.*

Parts of a Turkey



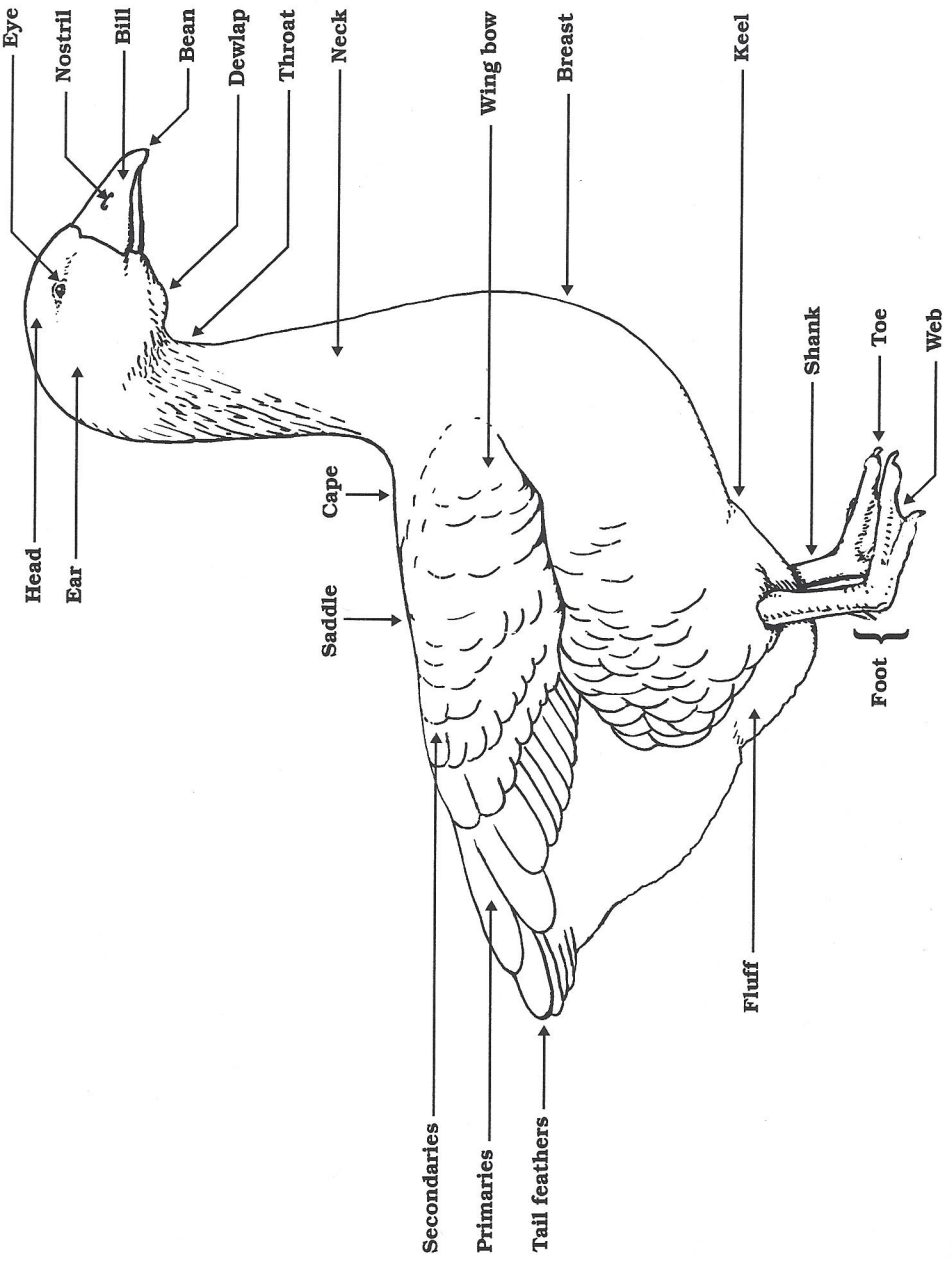
POULTRY
LEARNING LABORATORY KIT

Animal Care and Production:
Youth Education Program

Product distribution through the Curriculum Materials Service

Use this poster in conjunction with **Anatomy: Match Part with Location** *situation/task statement and* **Parts of a Goose** *identification tags.*

Parts of a Goose

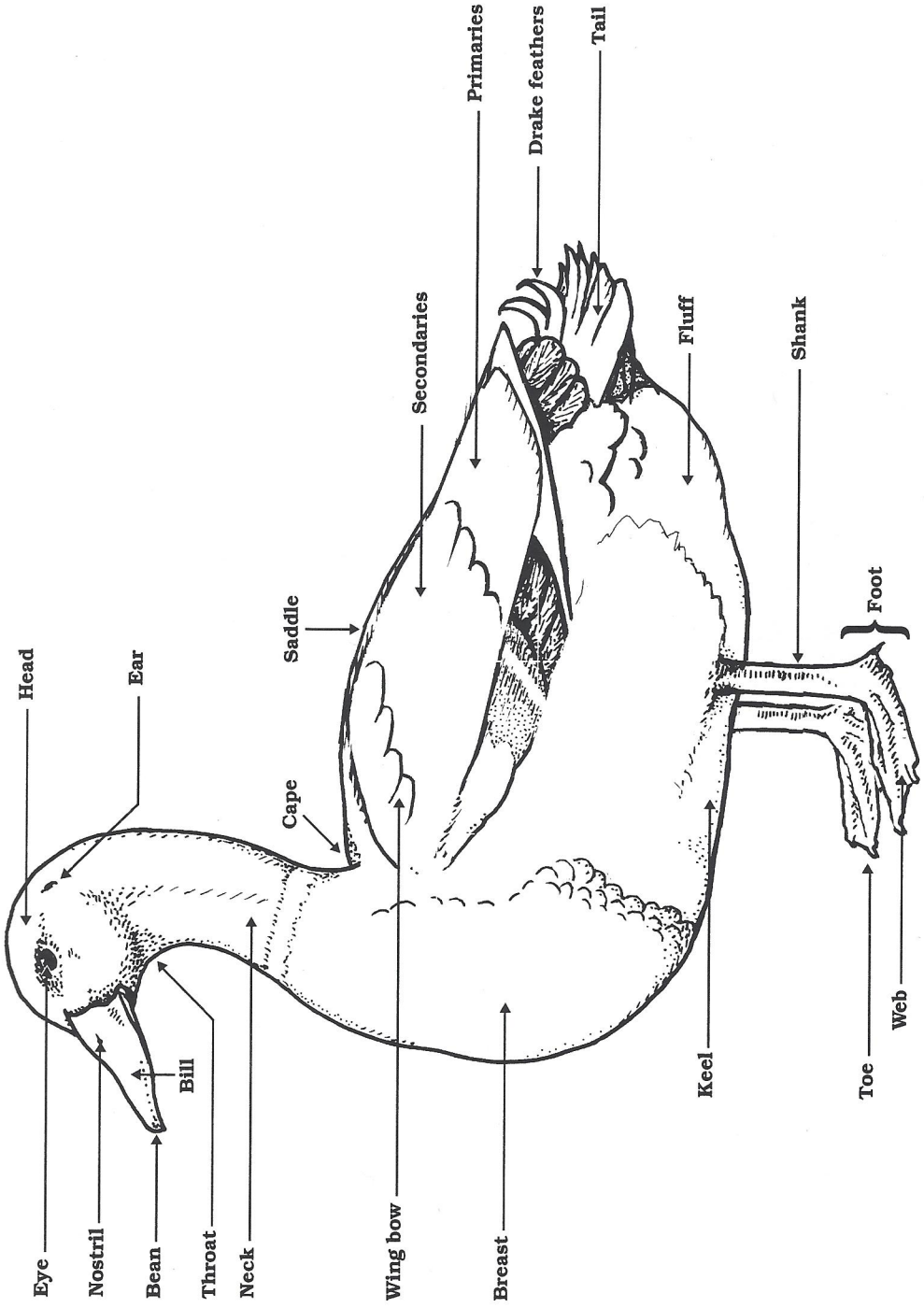


POULTRY
LEARNING LABORATORY KIT

Animal Care and Production:
Youth Education Program

Use this poster in conjunction with **Anatomy: Match Part with Location** *situation/task statement and* **Parts of a Duck** *identification tags.*

Parts of a Duck



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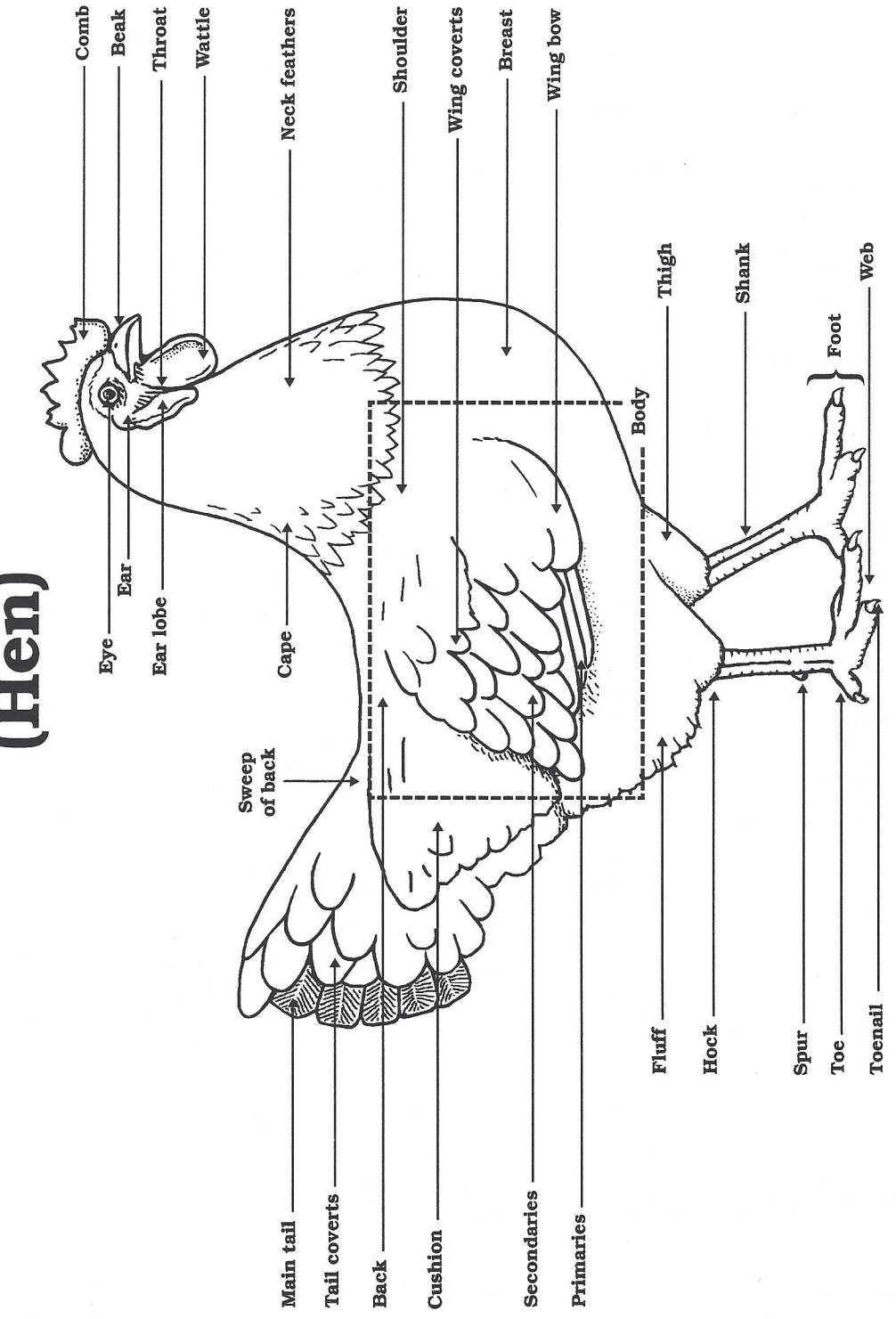
Youth Education Program

Use this poster in conjunction with **Anatomy: Match Part with Location** *situation/task statement and* **Parts of a Chicken (Hen)** *identification tags.*

Parts of a Chicken (Hen)



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LEARNING LABORATORY KIT

Animal Care and Production: Youth Education Program

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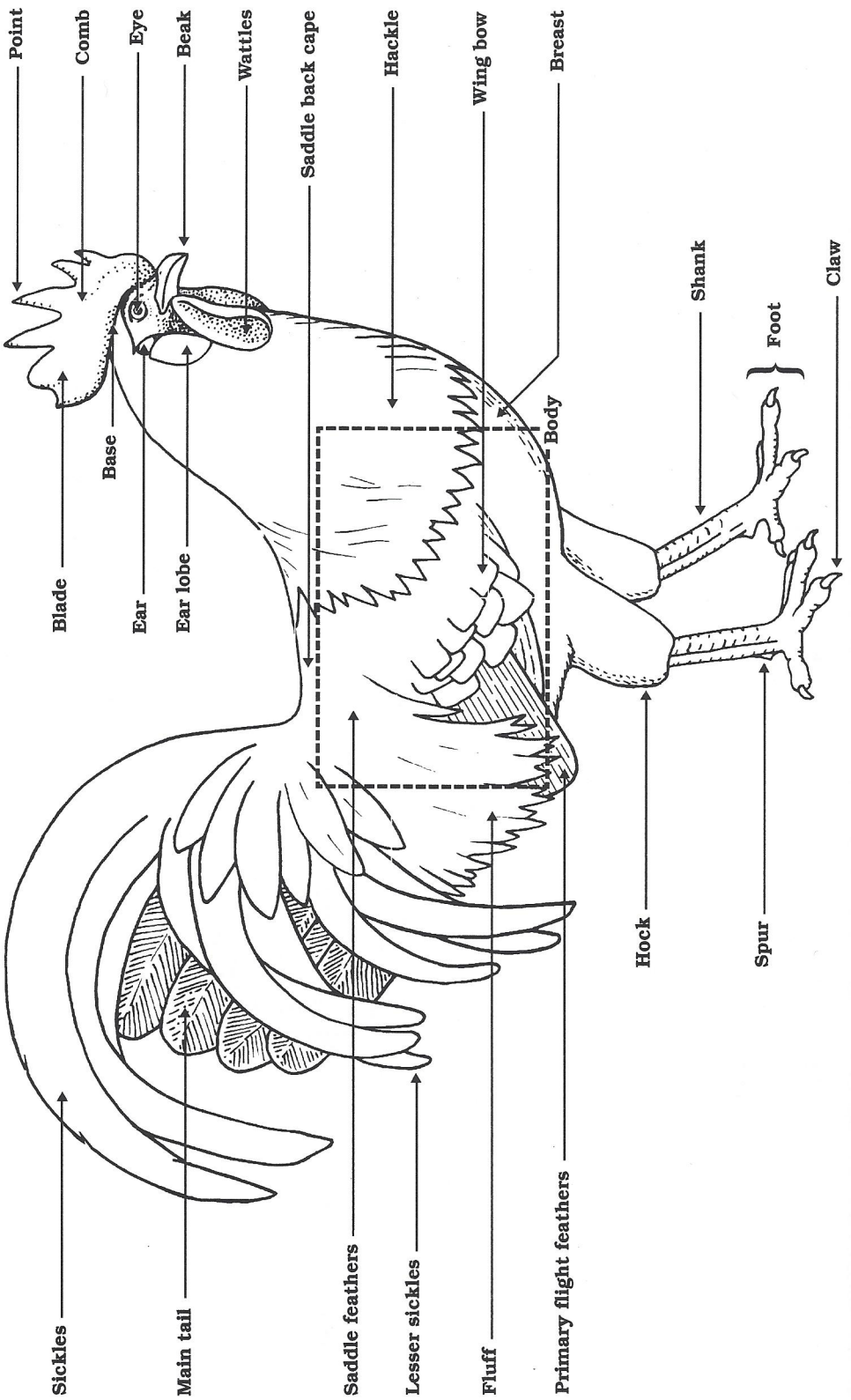
Use this poster in conjunction with **Anatomy: Match Part with Location** *situation/task statement and* **Parts of a Chicken (Cockerel)** *identification tags.*

Parts of a Chicken (Cockerel)



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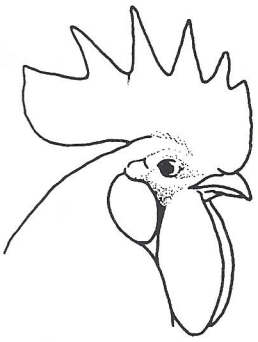
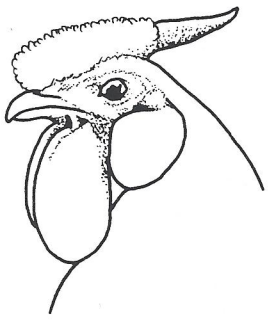
Use this poster in conjunction with **Anatomy: Match Bird Comb with Diagram** *situation/task statement and* **Bird Comb** *identification tags.*

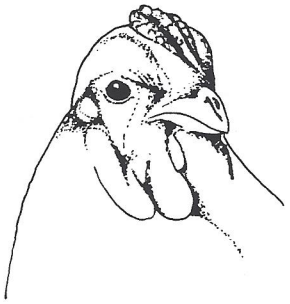
Bird Comb Identification



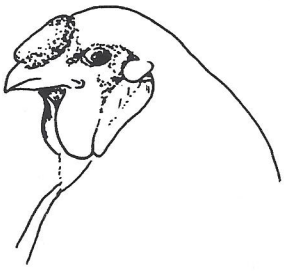
Single Comb



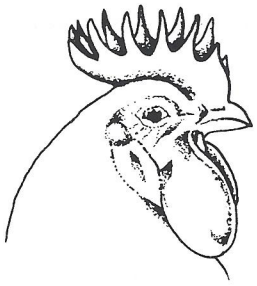
Rose Comb



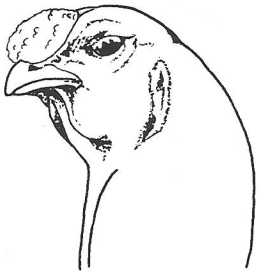
Pea Comb



Cushion Comb



Buttercup Comb



Strawberry Comb

POULTRY
LEARNING LABORATORY KIT

**Animal Care and Production:
Youth Education Program**

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THE RESPIRATORY SYSTEM

The respiratory system is made up of **lungs, pneumatic bones**, and **air sacs**. The lungs of the bird are different from that of a mammal's in that they are rigid. They function in the exchange of blood gases such as CO_2 and O_2. **Air sacs** are unique to the bird and are flexible. The air sacs open up to the pneumatic bones which aid in the exchange of air throughout the bird's body. There are four pair of air sacs and one single air sac, two **interclavicular** air sacs, two **abdominal** air sacs, two **anterior thoracic** air sacs, two **posterior thoracic** air sacs, and one **cervical** air sac. The respiratory system is important for air exchange and also for temperature regulation in the bird.

THE DIGESTIVE SYSTEM

(See Figure 7, page 42)

The digestive system functions to utilize food material for the maintenance of all the other systems of the bird's body. The bird's digestive system depends on enzymes (proteins) which chemically break down the food. The digestive system is made up of many different parts. The **mouth** contains salivary glands that secrete saliva containing enzymes which begin to break down food. A bird does not have teeth to chew its food but does have a tongue which pushes the food to the back of the mouth so that it can begin its passage down the rest of the digestive tract. The **esophagus** is the tube that connects the mouth with the rest of the digestive tract. The **crop** is located in the neck region and is used to store food until the bird is ready to digest more food. The **proventriculus** or **true stomach** secretes two enzymes: hydrochloric acid (HCl) and pepsin. Another unique part of the bird's digestive tract is the **gizzard**. The gizzard is made up of two smooth muscles and contains grit or stones and acts as the bird's teeth by grinding the food.

The **small intestine** is made up of the duodenum and the lower small intestine. The small intestine is important for the absorption of nutrients. The **cecum** are two blind pouches that, like our appendix, have no real function. The last portion of the digestive tract is the **rectum** or **large intestine** where additional absorption of water takes place.

The **pancreas**, which is in the center of the duodenal loop, secretes pancreatic juice which neutralizes the HCl secreted by the proventriculus and helps break down fat. The **liver** produces a dark green substance called bile which is necessary for the absorption of fats. The bile is stored in the gall bladder, and when food passes into the duodenum, it causes the gall bladder to empty the bile into the small intestine.

The **cloaca** is where the **digestive tract**, the **reproductive tract**, and the **excretory tract** all end up. The cloaca is important for absorbing any moisture from foodstuffs which will leave the body. It is also important since it is here that the egg from the female's reproductive tract is flipped in order that it will be laid large end first.

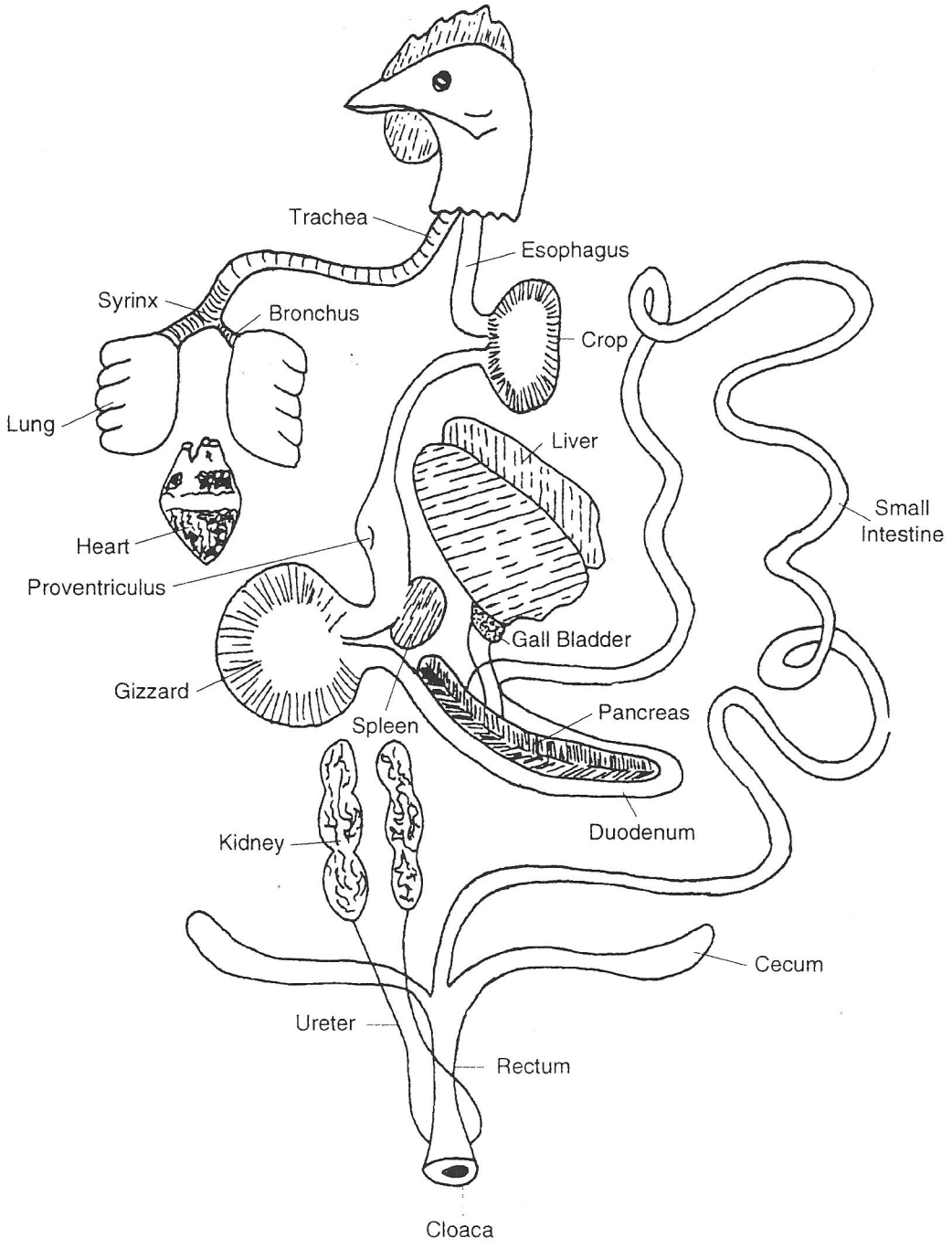


Figure 7. Digestive System and Excretory System

Medication Label

Trade Name of Drug — **Carramycin-152**

(oxytetracycline HCl) — *Active Ingredients*

DIRECTIONS FOR USE:

See package indications and directions for use.

Cautions and Warnings —

Warning: The use of this drug must be discontinued for 5 days before treated animals are slaughtered for food. Exceeding the highest recommended dosage level may result in antibiotic residues in meat beyond the withdrawal time.

Withholding Times

Store below 77°F (25°C).
Keep dry and keep away from light.

Storage

Quantity of Contents — Net contents: 4.78 oz. packet

Distributed by

Livestock Health, Inc. — *Name of Distributor*

Poultry Selection and Showmanship

Michael Schlumbohm

Water

- This is by far the most important nutrient!
- Most animals can only last about three days without water before succumbing to dehydration
- Birds should have access to fresh clean water at all times, regardless of species, age, or weather conditions.

Water

- Water intake has a direct impact on feed intake
- Most birds typically consume twice as much water as they do feed. If water intake is decreased, feed intake will also decrease
- Reduced water intake leads to reduced feed intake which can then lead to reduced growth and egg production

Egg Production

- Fed ad libitum, mash form
- Diets are generally moderate in energy. Protein levels are adjusted based on production stage and intake

- Diets changed based on egg production. Several diets over the life of a flock
- Can be Challenging because of low appetite
- Calcium/phosphorus ratio vital for shell quality

Oyster Shell

- Good source of calcium for egg-producing hens
- Large particle size is needed to stay in the gizzard
- Older hens have higher calcium requirements
- Feed free-choice in separate container

Dietary impact on eggs

- Can alter the fatty acid composition of eggs by including certain fat sources in the diet. Fat soluble vitamins (A,D,E, and K) can be altered to a degree as well
  - *Eggs high in Omega 3 fatty acids can be achieved by including flax seed or oil*
- Almost impossible to alter total fat and protein content of the egg by changing the diet
  - *Naturally smaller eggs will be lower in total cholesterol, but percentage wise are the same*

- Increased protein can increase egg size, to an extent

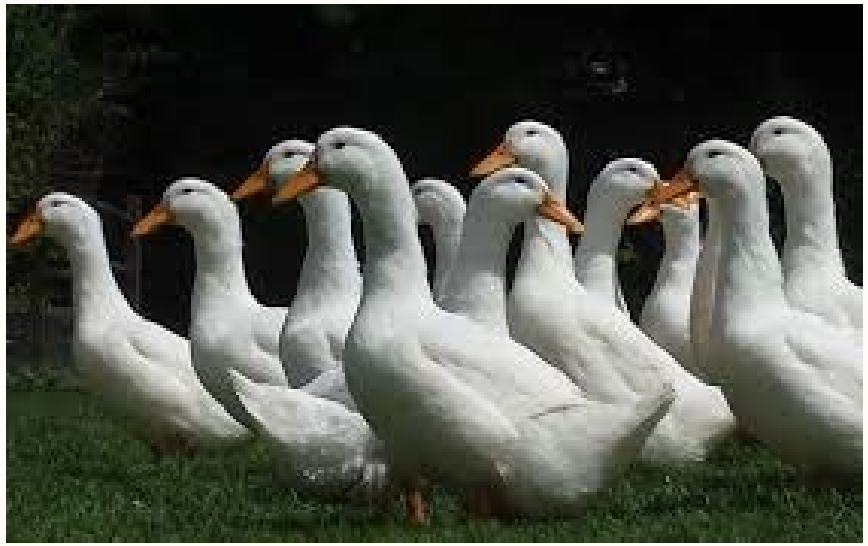
Broiler Production

- Chickens are one of the best converters of feed to meat and chicken is the number one consumed meat in the US
- Diets need to be high in energy and protein
- Fed ad libitum and in crumble or pellet form. 3-4 phase feeding program
- Constantly evolving requirements
- More dependence of individual

Amino acid inclusion

Ducks

- Meat ducks-fed similarly to broilers usually a 3-4 phase program
- Attention paid to protein:calorie ratio to reduce carcass fatness
- Special attention paid to pellet quality
- Higher niacin requirements than chickens

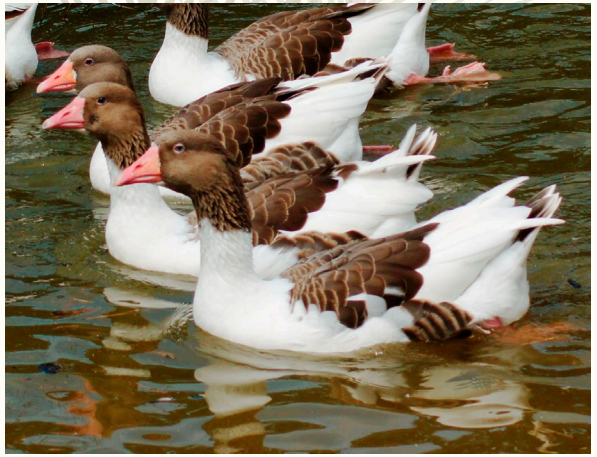


Turkeys

- Raised on a 5-8 phase feeding program. Crumble or pelleted feed
- Very high energy, protein, vitamin, and mineral requirements
- Hens and toms are reared separately

Breeding and Exhibition Birds

- Broilers, turkeys, ducks, and geese intended for breeders are raised on feed-restriction to control bodyweight. Layer, egg-type ducks, and guinea fowl, and do not require feed restriction
- Mash or pellet form
- Require higher vitamin levels than table-egg layers



Require lower crude protein levels for

optimum fertility

Exhibition

- Generally can be fed ad libitum
- May require specialized diets for best feather condition
- Wide range of breed/species type and management will determine feeding practices

Starter Phase

- In general, younger birds require more protein, minerals, and vitamins than do older birds. The energy requirement is also lower. Most chicken and waterfowl starter diets are between 20-22% crude protein.

- Turkey and gamebird starter diets are much higher in protein, minerals, and vitamins relative to chick starter diets. They range from 27-28% crude protein with higher calcium and phosphorus levels.

- Young chicks should have access to feed 24/7

Grower/developer Phase

- This phase is generally recognized as the phase between 6 weeks of age and maturity or market age
- Most grower and developer diets contain 16-18% crude protein with slightly higher energy levels and lower mineral and vitamin requirements
- The species and end goal will determine which diets are best to use

Which Diets To Use? Maturity

- In chickens and ducks, sexual maturity normally occurs between 18-20 weeks with the first eggs being laid around this time
- Just prior to this point (16-18 weeks of age) pullets should be switched over to a layer diet
- Layer diets should be fairly high in protein to help increase egg size and they should supply an increased amount of calcium compared to grower and developer diets

Nutrition's Impact On Maturity

- In order for a hen to come into production several factors need to be in place:
  - Age of the hen. The hen must reach a certain age in order to even begin production
  - Body weight. Hens need to have a minimum bodyweight
    - *Hens that are too heavy at point of lay may lay eggs too large later in life*
    - *Hens that are too light may have delayed onset of production and overall reduced production*
  - Body composition. Hens need to have a certain amount of muscle and fat tissue to mature properly
  - Lighting. Proper light management, day length, light intensity, and light type influence hormone production that triggers egg production

Breeding birds

- Birds intended for the production of hatching eggs should be placed on an appropriate breeder diet 2-3 weeks prior to anticipated first egg

- Breeder diets should be relatively low in protein and contain more vitamins relative to a layer diet

Show Preparation

- Can start weeks in advance to make sure feathers are in good, unbroken condtion
- Make sure birds are clean
- Keep them growing! Market poultry that go off feed will rapidly begin losing weight making them feel soft
- Provide enough feed and feeder space and plenty of water!

Bedding

- Needed to keep birds comfortable and clean
  - Especially important for show birds and ducks which have very valuable feathers
- Insulates against the cold ground
- Reduces foot pad lesions and breast blisters
- Provides steady footing
- Overall improvements in health and comfort lead to better performance

Materials

- Anything that is absorbent, relatively dust free, provides cushion

- Pine Shavings
- Straw
- Ground Corn Cobs
- Corn stalks/stubble
- Shredded paper/cardboard
- Sand
- Wire-bottomed pens or slats for chicks or waterfowl

- DO NOT use slick newspaper for new chicks

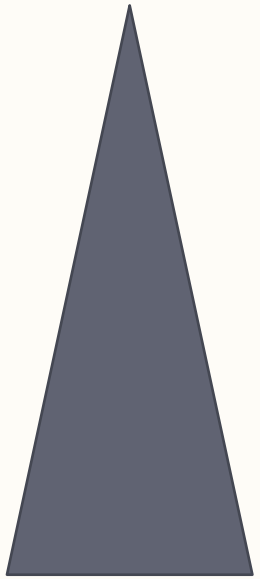
Litter Management

- Regular wet and caked litter removal
  - Areas surrounding water containers and under roosts may need more frequent cleaning
- Top dressing with dry bedding when needed
  - *Waterfowl in confinement will need top-dressing more often.*

Bird Selection
Broilers

- Breast meat yield
  - Long, wide breasts that carry their width all of the way from the front of the breast to the tip of the keel
- Uniformity!!!
  - All three birds should be shaped the same and they are judged as a pen rather than as individuals

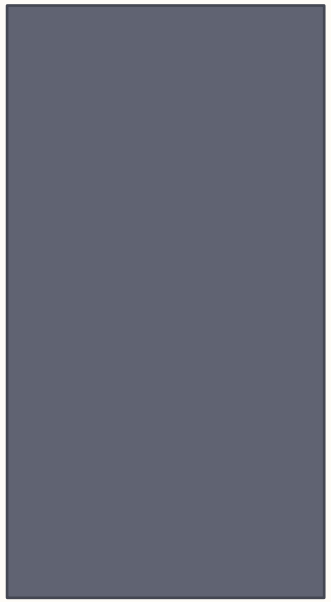
Broiler Breast Shape

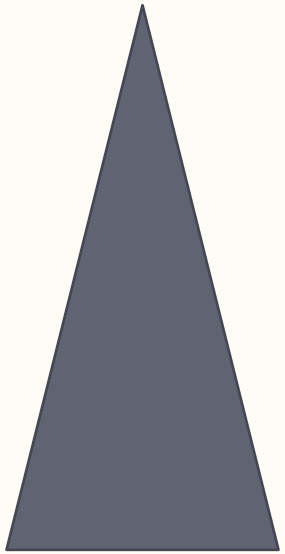


Bird Selection Turkeys

- Breast meat yield
  - Long, wide, breast that carries its width back
  - Toms and hens are naturally very different in shape with toms tending to be longer and narrower with hens being shorter and wider
  - Still wanting the same rectangular and square conformation on both
  - Some judges will look at leg thickness as a tie-breaker

Turkey Breast Shape

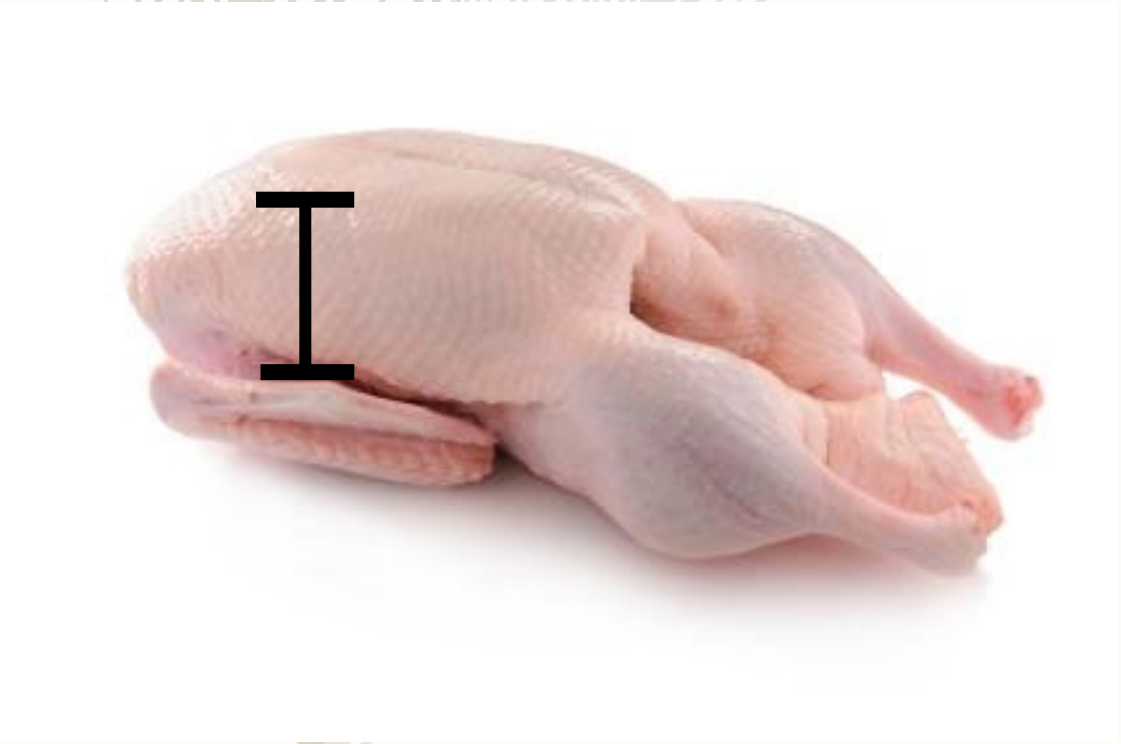




Bird Selection
Market Ducks

- Breast meat yield
- Fleshing is very different from broilers or turkeys. Long and wide breast with more fat cover
- Feel for thickness of breast muscle
- Cleanliness is arguably more important in ducks since the feathers are a highly valuable by-product
- Uniformity!!!!

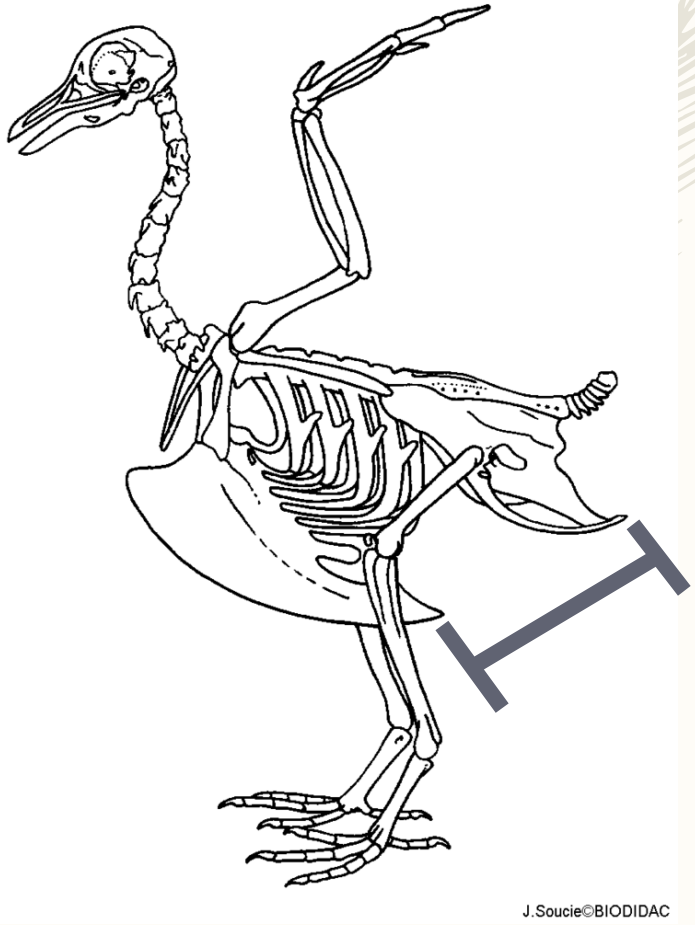
Duck Breast Shape

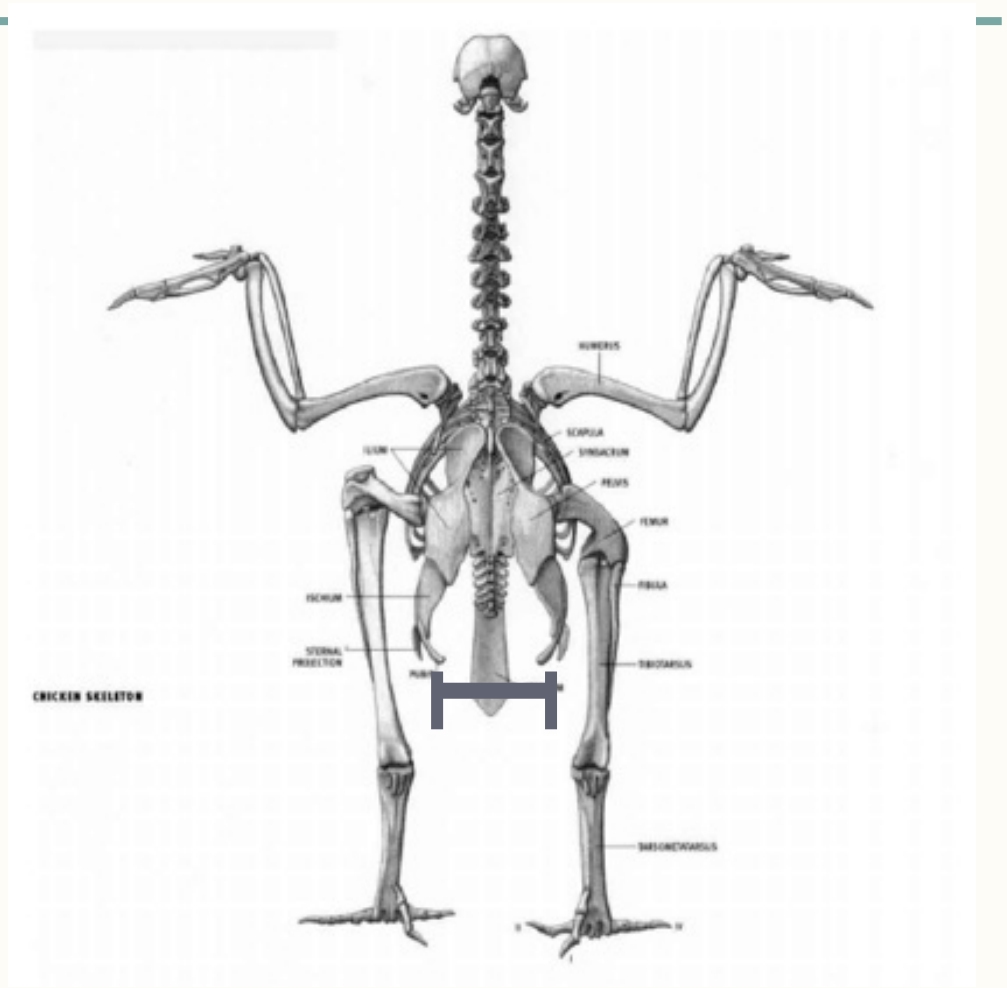


Bird Selection
Pullets and Laying Hens

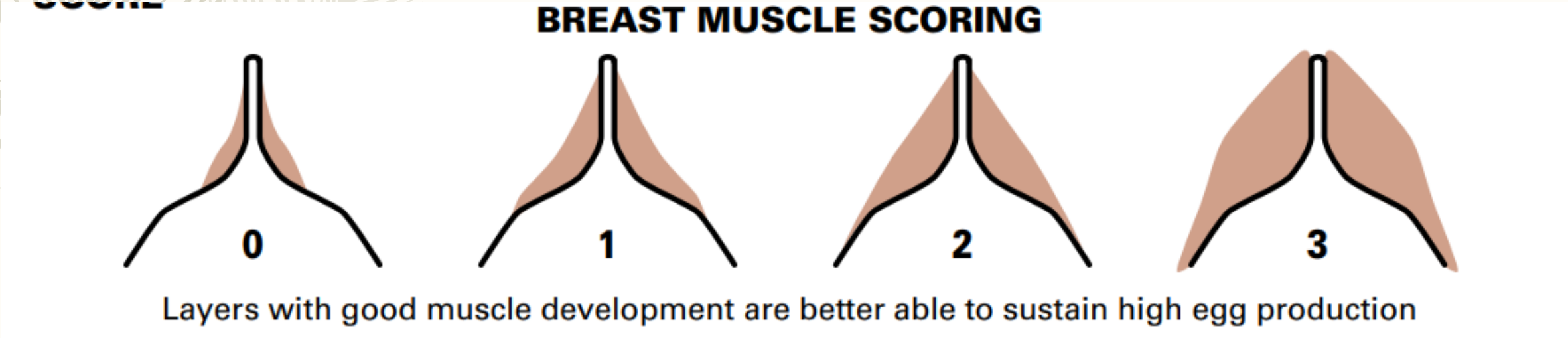
- Indications of a long, productive life, and maturity and readiness to lay
- Width between pelvic bones
- Depth between tip of the keel and pelvic bones
- Wide and deep is better than narrow and shallow
- Appropriate body condition
- Uniformity!!!

Layer Abdominal Cavity





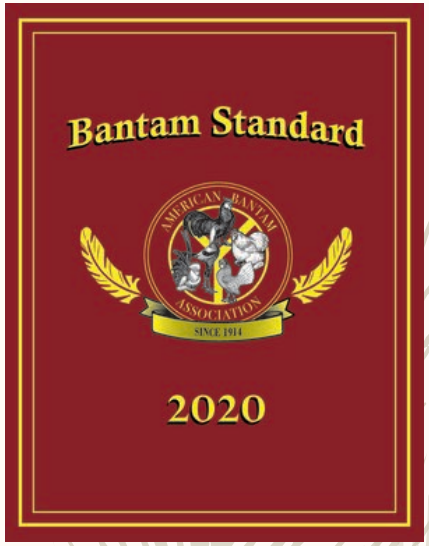
Layer Fleshing



Market Poultry and Layers

- General indications of health
  - Clear, bright eyes, bright combs, wattles, and faces
  - Feather color is not considered in layers
  - Feather condition is given less consideration

  - Make sure they are clean!
  - Judges do not like handling birds that are very dirty



Fancy Poultry and Waterfowl

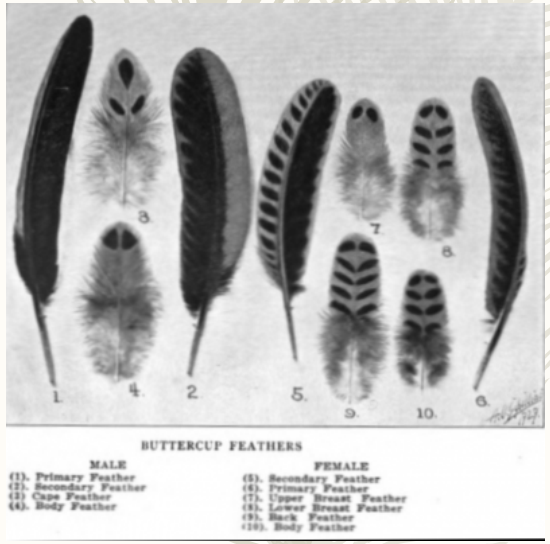
- Each breed has its unique shape, size, and color requirements set forth by the American Poultry Association and/or American Bantam Association

- Consult either the *Standard of Perfection* or *Bantam Standard* to help select the best show birds and breeders

- APA - Store - American Poultry Association (amerpoultryassn.com)
- 2020 Bantam Standard — American Bantam Association (bantamclub.com)

Fancy Poultry Judging

- Broken down into three main categories



- Type (shape)
  - General size, body carriage, tail length, tail angle, other features (crests, beards, etc)
- Color
  - Coloration of the feathers, legs and toes, face, comb and wattles
- Condition
  - Overall health, cleanliness, and feather condition. Ideally no broken, missing, dirty, or frayed feathers

Fancy Poultry Judging

- Each bird is compared to its respective standard and the one that most closely matches its standard is considered to be the best.

General Disqualifications

- Listed in both the APA and ABA standards
- Characteristics which will disqualify a bird from competition
- Any characteristic foreign to the breed
- Incorrect comb for the breed, incorrect shank color, stubs on clean legged breeds, etc.

Showmanship-What to Wear?

- White, long-sleeved shirt or lab coat is normal
- Jeans, close toed shoes or boots

Bird Preparation

- Make sure bird is clean and in relatively good condition
- Does not necessarily need to be a good show bird

Bird Handling

Should be the first thing learned

Useful to prevent injury to the bird and the handler

One hand underneath and one hand over the wings

Always remove from and place in the cage head first

Close cage door behind you!

Breed and Variety Identification

- Know what breed and variety you have. Be specific!
- Ex: Black Hamburg bantam not just “Hamburg”
- Know the sex and age i.e. cock, hen, cockerel, or pullet
- Know what class it is in: American, RCCL, Heavy, etc.
- Know some history of the breed and the original purpose; meat, eggs, etc.

Commercial Poultry Purpose

- What products are made from hen and tom turkeys respectively
- Brown or white egg layers
  - *What does earlobe color indicate?*
- What products do heavy broilers and light broilers produce

Parts Identification

- Learn and identify all body parts and feathers
- Know what type of comb your chicken has and parts of that comb
- For market poultry be able to identify cuts of meat; breast, drumstick, thigh, etc. and be able to point out where those parts are
- Know the most valuable cut of meat

General disqualifications and Defects

- Identify characteristics that would disqualify a bird from competition
- Defects are traits that generally make the birds less suitable for breeding purposes or would negatively affect their placing. i.e. improper tail angle, too few or too many points on the comb, poor type or color
- For market poultry, crooked keels and breast blisters will reduce their market value

General knowledge-Incubation

- Know incubation periods for your species as well as others
- Know proper incubation conditions: temperature, humidity, turning, and ventilation

General Knowledge-Nutrition

- Be able to describe your specific feeding program
- Know general nutrition concepts and how poultry are fed
- Know the most important nutrient
- Why is calcium important for layers and protein for market poultry

General Knowledge-Genetics and Breeding

- How would you use the particular bird in a breeding program
- What would you change about the bird?

Market Poultry Questions

- Typical marketing age and liveweight for your species
- What products are they used to make
- Typical Feed conversion ratios and carcass yields
- How long are laying hens typically used, how many eggs can they produce, when do they reach maturity