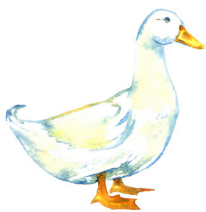


4-H POULTRY

LEVEL 1 - Starting out

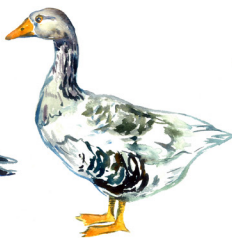
LEADER'S GUIDE BOOK



Duck



Muscovy duck



Goose



Turkey



Quail



Chicken

Poultry

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INTRODUCTION

ESSENTIAL ELEMENTS FOR ANY 4-H PROGRAM

Just like all living things, youth need nourishing, supportive, and protective environments in which they can grow into healthy and flourishing adults. Youth need to know others care about them and believe they are capable of being successful. In addition, they need opportunities to practice helping themselves and others. It is important to have adults enhance interactions with elements that lead to positive youth development.

A team of evaluators from the National 4-H Impact Design Implementation Team has identified eight critical elements that must exist for youth to have opportunities and experiences that are positive and effective.

1. Positive relationships with caring adults

A positive relation with a caring adult develops when adults learn about the interests of youth or pay attention to the activities of individual youth members outside meetings, events, and an organization's activities. Positive relationships between youth and adults help youth establish feelings of belonging by letting youth know someone cares about them and they are accepted by others.

Structure group activities so both youth and adults have time to learn about one another. It is important that the adult leaders interact with the youth and not just act as chaperons or supervisors.



2. A safe emotional and physical environment

Youth are unlikely to participate in activities if they are uncomfortable with their surroundings. All adult leaders and volunteers involved in 4-H programs should be screened before they begin working with youth groups. Bullying, cliques or put-downs should not be permitted by the adults or youth participating in 4-H programs, during as well as outside of activities/events.

3. An inclusive environment

In an inclusive environment, groups celebrate the success of all members and take pride in the collective efforts of all. When an inclusive environment occurs, youth members encourage each other during fair judging, project development, and academic challenges. Use buttons, signs, banners, T-shirts, hats or other symbols to signify group membership. Provide forms of recognition for all youth involved, not just to those who excel in competition with other youth. Offer youth a chance to develop clear and concise rules for participation and behavior, and follow up regularly by discussing ways to improve. Involve everyone right from the beginning through ice-breaker and get-acquainted activities.

4. Engagement in learning

Engagement means the focus is on learning as a way to improve rather than proving you are the best or better than someone else. Someone who is engaged in learning is mindful of a subject area and builds relationships to develop greater understanding. You who are fully engaged in learning have high levels



of self-motivation and an unlimited capacity for creativity.

Provide opportunities where youth can be intellectually stimulated and challenged. Help youth design projects that make a difference to others. Have youth help with the planning, implementation, and evaluation of stages of an activity. Create experiences with youth that relate to real-life situations. Provide youth with opportunities to experience what they have learned by performing practical skills competently, helping a younger member of the club, or giving a demonstration to the club or community.

5. Opportunity for mastery

Small accomplishments by youth can lead to an enthusiasm to work toward greater, life-changing accomplishments when they get old. Self-confidence and a sense of meaningful accomplishment lead young people to feel a sense of mastery.

Help youth establish realistic, challenging, and achievable goals. Provide opportunities for youth to practice and demonstrate their skills to others. Allow time for youth to reflect on their accomplishments, setbacks, growth and pride. Plan developmentally appropriate activities and accommodate diverse learning styles. Provide a number of opportunities for youth to serve as teachers of others, and provide youth with training in how to successfully teach others.

6. Opportunity to see oneself as an active participant in the future

The ability to see yourself in the future is to have hope and optimism to make life choices that assist in them transitioning into the future. Youth have the opportunity to see themselves as active participants in the future when they draw on their various interests to help choose possible career paths and hobbies.

Have youth participate in making plans for the coming 4-H year. Help them realize some of their goals through the programs and projects developed. Give youth opportunities to develop an idea and see it through to completion. Encourage youth to think positively.

7. Opportunity for self-determination

Self-determination exists when youth choose projects, activities, or hobbies based on their changing interests and abilities. Other ways youth display self-determination as deciding for themselves what went well and what they would do differently the next time they try something. Youth need to know they have influence over their own lives. Youth develop responsibility when they acquire independence.

Give youth opportunities to set their own goals. Provide an environment in which youth can try new things and challenge themselves safely. Avoid solving problems for youth. Allow them to come to their own solutions. Be supportive and act more like a guide.

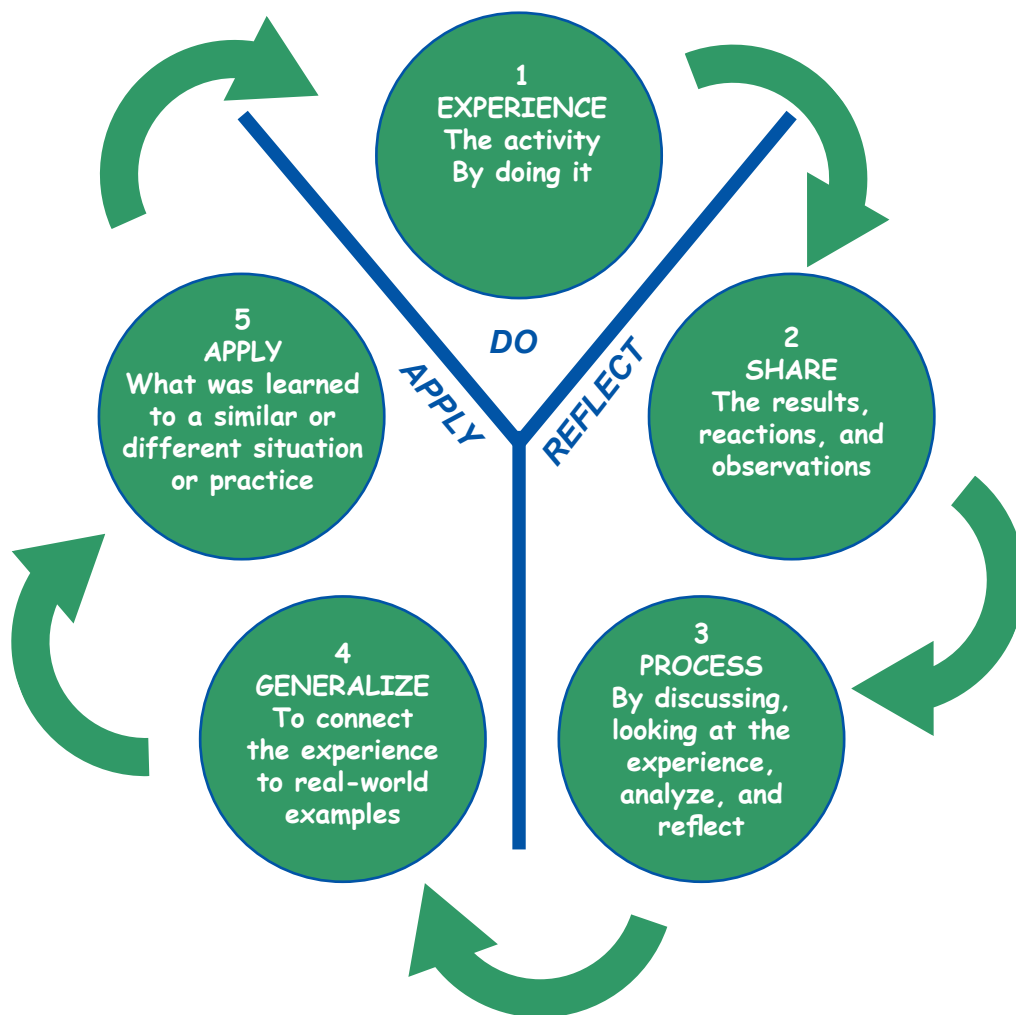
8. Opportunity to value and practice service to others

Service is a way for youth to acquire exposure to a larger community and the world. It also helps them develop a sense of generosity. Having youth learn what opportunities exist for them to connect to their community and how they can give back to other people is important. Offer opportunities for youth to practice and show skills to others. Allow time for youth to reflect on successes, setbacks, growth and pride. Offer opportunities for youth to teach others.

EXPERIENTIAL LEARNING

4-H youth development relies heavily upon the five steps of the experiential learning module to teach life skills. The sequential steps of the model help youth identify what they have learned from a 4-H experience or activity and to apply that learning to other experiences or situations. 4-H has adopted a process that allows youth to learn through a carefully planned 'doing' experience that is followed by leader-led discussion with purposeful questions.

- Participants **experience** the activity: They perform or do it.
- Participants **share** the experience by describing what happened.
- Participants **process** the experience to determine what was most important and to identify common themes.
- Participants **generalize** from the experience and relate it to their daily lives.
- Participants **apply** what they learned to a new situation.



TYPES OF ACTIVITIES AND LIFE SKILLS LEARNED

- Playing a game: Team-work, Risk-taking
- Experiments: Decision-making, Problem-solving
- Planning activities: Team work, Planning, Leadership
- Giving presentations: Communication
- Interviewing others: Communication, Relating to others
- Solving a problem: Decision-making, Problem-solving
- Making models and products: Problem-solving, Leadership, Accessing resources.



LEARNING OBJECTIVES:

- Understand the different species considered poultry and what they are raised for
- Locate and identify the different parts of poultry
- Breed identification
- Nutrition, feeding, health, and daily care of poultry
- Poultry showing techniques
- Being a good sport while showing poultry

MODULE 1

TYPES OF POULTRY

Several species of birds have been domesticated for our use and are classified as poultry. Many are produced commercially although the size of the industry varies depending on the species.

The two most commercialized species in the United States are the chicken and turkey. There is a smaller duck industry as well.

Chickens can be raised for meat or eggs, and very different types of chickens are involved in the two industries. The chicken egg industry is predominantly with a strain of the single comb white leghorn. This strain produces a white-shelled eggs, which is the most commonly sold color of egg in most of the United States. In the northeastern portion of the country, however, brown-shelled eggs are preferred. There are commercial strains of brown egg layers that were developed from the Rhode Island Red or New Hampshire breeds of chickens.

Turkeys are raised commercially for meat. While turkey eggs can most definitely be eaten, there are no commercial turkeys raised for egg production. The cost of production with such a large bird would not make them an economical source of table eggs.

Ducks can be raised for both meat and eggs and, as with the chicken, very different types of ducks are involved in the two industries. Duck eggs are more popular in Asia than in the U.S., although there is a niche market for duck eggs. People with allergies to chicken eggs are often able to eat duck eggs with no problems. In the U.S., most commercial duck production is primarily for meat.

The other type of waterfowl that is raised commercially is the goose. **Geese** can be raised for meat or for feathers and down. Down-filled sleeping bags and coats are very warm and comfortable.

There is also a small niche market for 'foie gras' products. Foie gras is French for fatty liver and refers to a product produced by feeding ducks or

geese with high energy diets causing the extra energy to be deposited into the liver. Because of animal welfare concerns, the production of foie gras in the U.S. has declined dramatically.

Some of the large species of poultry include the ratites. Ratites are a type of flight-less bird that has no keel bone. The keel bone (also called the breast bone) is important for the attachment of the breast muscles used in flight. Since ratites do not fly, they do not require a keel bone.

The common commercial species of ratites include the ostrich and the emu. In the past, **ostriches** were raised for their feathers which were a fashion accessories. Today they are raised primarily for meat and/or hides. Their hides can be made into leather which is used in the production of wallets, boots, vests, etc. Ostrich meat is a red meat so it looks a lot like beef, but it is much leaner since it lacks the intramuscular marbling that is commonly seen with beef. Ostrich eggs are often used for creating ornaments.

Another ratite that has been raised commercially is the emu. The **emu** is prized for its oil more than its meat or hide, but can be raised for all three. Emu oil is a deep penetrating oil when applied to the skin so can be used to get therapeutic agents, like analgesics, into the muscles.

Pigeons can be kept as a hobby for racing or carrying messages, but commercially they are raised for meat production, known as squab.

A few game birds are also considered poultry and are raised either for meat or for release in hunting preserves. The species raised for release will depend on the part of the country. In the Midwest, **pheasants** are popular. In the southeast, **bobwhite quail** or more frequently raised.

Game birds raised commercially for meat production include **pheasants**, **quail** (bobwhite or coturnix), and **guinea fowl**.

TYPES OF POULTRY

LEARNING OBJECTIVES

Clover

- Determine the main commercial poultry species raised in Kentucky: Chickens, Turkeys
- Determine the main food items produced by the commercial poultry species raised in Kentucky:
Chickens: Meat and eggs
Turkeys: Meat
- Determine the main commercial poultry species raised in the United States: Chickens, Turkeys, Ducks
- Determine the main food items produced by the commercial poultry species raised in the United States
Chickens: Meat and eggs
Turkeys: Meat
Ducks: Meat

Intermediate

- Determine which avian species are poultry, based on the definition of: "Poultry are domesticated birds kept by humans for their eggs, their meat, their fiber as feathers or hide, their oil, or for work or entertainment."
- Discuss which avian species are NOT considered poultry and speculate why?

TABLE EGGS: Chickens, Ducks, Guinea fowl, Quail (in particular Coturnix quail)

MEAT: Chickens, Ducks, Emu, Goose, Guinea fowl, Ostrich, Pheasant (either specifically for meat or for release in a hunting preserve), Pigeon, Quail (both Bobwhite (either specifically for meat or for release in a hunting preserve) or Coturnix quail), Turkeys

FIBERS: Feathers - Ducks, Geese; Hides - Ostriches, Emus

OIL: Emus

WORK/ENTERTAINMENT: Ducks and Geese (weeding), Guinea fowl (tick control), Pigeons (racing or homing pigeons)

Senior

- Determine which avian species are poultry, based on the definition of: "Poultry are domesticated birds kept by humans for their eggs, their meat, their fibers as feathers or hide, of for work or entertainment."
- Determine what products are produced by the poultry species identified.
- Discuss why some poultry species are NOT raised for eggs, meat, feathers, hide/leather, oil, work, or entertainment.

TABLE EGGS: Turkeys and geese are not raised for eggs because they are too big a bird so feed efficiency is not cost effective. For the other species, the eggs produced are more profitable as hatching eggs.

MEAT: All the poultry species can be raised for meat production.

FIBERS: Down feathers are the most prized feathers and are typically produced most by ducks and geese, with the feathers of geese generally a better quality than duck feathers. The value of ostrich and emu feathers has declined so much that it is not typically the primary reason they raised. Feathers, however, may be a by-product sold. Ostriches, however, are sometimes raised for

OIL: Emu oil is special in that it is deep penetrating. The other poultry species do not produce have an oil with special properties and no commercial quality of oil can be obtained from them.

WORK: While they are not raised specifically for work, manure from all poultry species can be composted to make a valuable organic fertilizer.

KENTUCKY ACADEMIC EXPECTATIONS

1.10 Students organize information through development and use of classification rules and systems.

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

TARGETING LIFE SKILLS

<i>Clover</i>	<i>Intermediate</i>	<i>Senior</i>
<ul style="list-style-type: none">• Critical Thinking• Problem Solving• Learning to Learn	<ul style="list-style-type: none">• Critical Thinking• Problem Solving• Learning to Learn• Decision Making	<ul style="list-style-type: none">• Critical Thinking• Decision Making• Communication• Contribution to Group Effort• Teamwork• Leadership

ACTIVITY

Clover

Materials needed: None

Have a leader-led discussion on what poultry species Kentucky farmers produce. It could include a trip to the grocery store to see what kind of poultry products they see there that are produced in Kentucky.

Intermediate

Materials needed: Copies of the mix and match handout with different types of poultry

Activity: Have the clovers work in groups to draw lines between the names and the images of the different poultry species.

Senior

Materials needed: Copies of the photos of, and labels, for the different types of poultry. Also, have copies of the possible products (table eggs, meat, feathers, hide/leather, oil, work, entertainment. It would be preferred if they were laminated.

Have the 4-Hers put the images of the types of poultry together with the name of the species. Then have them discuss what types of products each species is raised commercially for.

REFLECTION

To complete the experiential learning model, discuss these or similar questions with the youth:

Share:

- What did we do in this activity?
- What was the goal of this activity?
- What did you learn from this activity?

Process:

- What part of the activity taught you the most?

Generalize:

- What was the most interesting thing you learned from the activity?
- What surprised you the most?

Apply:

LEARN MORE ABOUT THE KENTUCKY POULTRY INDUSTRY

Poultry and Eggs are the number one agricultural commodity in Kentucky and the number one food commodity. Kentucky ranks seventh in the United States for broiler production and raised 299.2 million meat chickens in 2019. In 2019, Kentucky produced more than 123 million dozen eggs. That's about 1.5 million eggs.

In Kentucky, there are more than 850 large-scale poultry farms with more than 3200 poultry houses. There are commercial poultry production operations in 49 of Kentucky's 120 counties.

Kentucky's poultry industry has a large investment in facilities statewide. Currently in Kentucky there are five broiler hatcheries, two primary breeder hatcheries, several feed mills, four chicken processing plants, four egg layer complexes, and a protein conversion plant (rendering plant). Kentucky also produces chicken for processing plants located in Tennessee, Indiana, Virginia and Missouri.

The four table egg layer companies in Kentucky have over four million egg layers producing 18 million eggs per week. The broiler-breeder industry in Kentucky employs approximately 6,300 people across the state and generate an additional 20,444 jobs in both the supply and ancillary industries. Kentucky's turkey industry also plays an integral role in Kentucky's economy. In 2014, the turkey industry was responsible for contributing roughly \$393.8 million as a whole to the Kentucky economy and created as many as 2,567 jobs in our state. Egg producers contribute approximately \$214.7 million dollars to Kentucky's economy, while creating 1769 total jobs for Kentuckians. In a circular memorandum to the Industry, Joanne Ivy, president and CEO of the American Egg Board, highlighted growth in egg consumption during 2014. Per capita use grew to 160.7 eggs, the highest in 30 years and the fifth consecutive year of an increase.

Over 50% of poultry farmers are or were tobacco farmers. Many farmers enter the business to diversify their revenue because of their concerns about tobacco's future. The average poultry farm is owned and managed by a family farmer and consists of less than five poultry houses.

Kentucky's poultry industry is the largest buyer of Kentucky grown corn and soybeans. Depending on

the year and the harvest Kentucky's poultry consumes about 25% of Kentucky grown soybean and 25% of Kentucky grown corn. In other words, 1 in every 4 rows of corn planted in Kentucky goes to feed poultry in Kentucky. Each table egg layer consumes about 1 bushel of corn and 1/2 bushel of soybeans. A hen must eat about four pounds of feed to produce one dozen eggs. Kentucky's grain farmers realize a 10-25 cent per bushel premium for grain sold to the poultry industry.

Companies in Kentucky

Poultry Company's

Poultry in Kentucky



Cobb-Vantress, Inc.
Kentucky & Tennessee



Farbest Foods, Inc.
Indiana



Cal-Maine Foods, Inc.
Kentucky



Tyson Foods, Inc.
Kentucky, Indiana, &
Tennessee



Keystone Foods, LLC
Kentucky



Perdue Foods, LLC
Kentucky



Pilgrim's Pride, Inc.
Kentucky



Egg Innovation's
Indiana

ACTIVITY

Identification of different types of poultry species



CHICKEN



DUCK



EMU



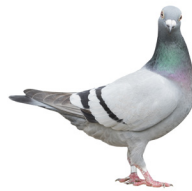
GOOSE



GUINEA FOWL



PHEASANT



PIGEON



OSTRICH



TURKEY



QUAIL

MODULE 2

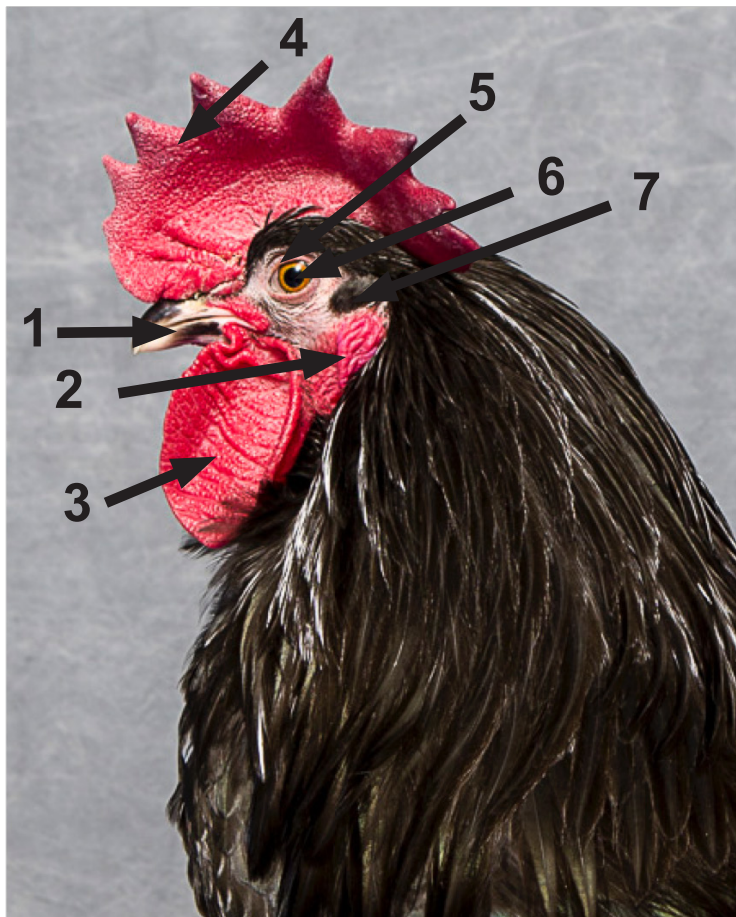
PARTS OF CHICKENS

There are some important terms. A baby chicken is called a chick. An immature female chick is called a pullet. When a pullet matures, it is called a hen. An immature male chick is called a cockerel. When a cockerel matures, it is called a cock or rooster.

Chickens exist in many colors, sizes, and shapes. There are more than 350 combinations of physical features. It is important to know the names of these different features.

Starting with the head, the main parts of importance are:

- **Beak:** The chicken beak is a bird's version of a jaw, where some animals have jawbones and teeth to do the heavy lifting when it comes to using this body part. Chickens have a more lightweight beak. The beak is made from keratin and serves many purposes. These include grooming, eating, killing small prey, manipulating objects, probing for food, and feeding its young. They can also serve as a weapon and chickens will peck at each other. Chickens have two nostrils that are located on their beak and develop their sense of smell while they are still in the egg.
- **Comb:** Fleshy growth or crest on the top of the head. There are different types of combs. Most are red in color, although some are deep blue, purple, black or light gray in color. The chicken's comb is important for temperature regulation and serves as a cooling mechanism. Chickens cannot sweat to cool themselves. Instead, they are cooled by the blood flowing through their comb and wattles, which circulates and then returns to the insides to cool the body.
- **Wattles:** Fleshy, wrinkled, and often brightly colored, fold of skin hanging from the neck. Like the comb, the wattle is also most commonly red in color, but will vary depending on the breed. It is also important as a cooling agent in the same way as the comb does.
- **Eyes:** Chickens have eyesights on either side of the head. Chickens can see color and can actually see light in wavelengths that we cannot. Because the eyes are on the side of the head instead of in front like us, chickens have a 300 degree field of vision without turning their head.
- **Eye ring:** Because the eye is a crucial part of a chicken anatomy, it requires some extra protection in the form of an eye ring. The eye ring is simply the skin surrounding each eye, and will cover the eyeball completely when they are closed, basically like an eyelid.
- **Ear canal:** Unlike us, chickens do not have external ears. Instead, they have just an opening in the ear canal, located a little behind the eye and are protected by a tuft of feathers.
- **Ear lobe:** The earlobe is the most prominent part of a chicken's ear, and is the flap of skin found hanging just below the chicken's ear canal. The ear lobes vary in color and size depending on the chicken breed, but will be either white or red in color. There is a genetic correlation between the color of the ear lobes and the color of the eggshell the hens lay. As a general rule, for breeds with red earlobes typically lay brown eggs while those with white ear lobes lay white eggs. There are some exceptions, of course, some of which will be discussed when we discuss breeds.
- **Tufts:** Some breeds of chickens, such as the Araucana, have feathers projecting from the face. These feathers are referred to as tufts.
- **Muffs:** Some breeds of chickens, like the Faverolle, have bunches of feathers on the side of the face referred to as muffs.
- **Beard:** Those breeds with muffs, also typically have bunches of feathers in the front referred to as a beard.
- **Crest:** A crest is an almost globular tuft of feathers on top of the head of some chickens, such as Polish, Houdans, Crevecœurs, Silkies, and Sultans.



1. Beak
2. Ear lobe
3. Wattles
4. Comb
5. Eye ring
6. Eye
7. Ear canal



Araucana hen showing the ear tufts.



Chicken with a beard and muffs.

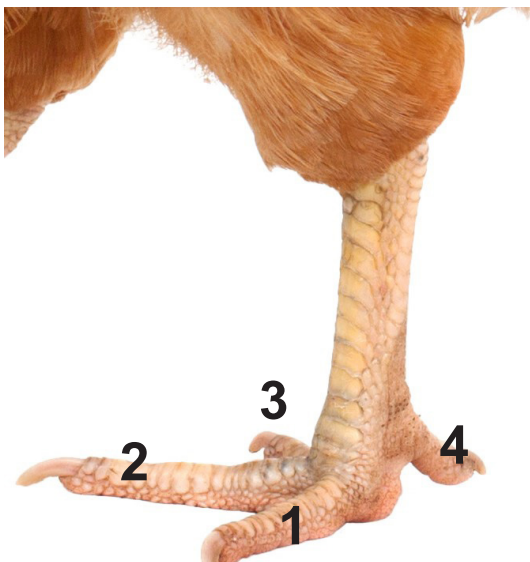


*POLISH CHICKENS
With crests
Male (left) and Female (right)*

In terms of appendages, chickens have two legs.

- The ***hock*** is the joint between the drumstick and the foot.
- The ***shank*** is the main part of the foot and is between the hock and the base of the toes.
- Most breeds of chickens have four ***toes***, or claws, on each foot. There are three toes in the front and one in the back. Some breeds, like the Silkie, have five toes on each foot. The Silkie has a fifth toe projecting from the back toe.
- The ***spur*** projects from the shank. Both males and females have spurs although they are typically larger in males than females.

Instead of arms, chickens have two wings. Chickens have the same bones as human arms, but they are modified for the attachment of flight feathers.



Typical chicken foot with four toes



Feet of Silkie chicken showing the fifth toe



Tails for a male (left) and female (right) Black Australorp



Araucana chicken which is rumpless

Most chickens have tails. The exception is the Araucana chicken which is rumpless. That is, it has no tail. It is not that it has no tail feathers, it does not have the pygostyle (sometimes called the Pope's or Parson's nose).

The **back** is located between the shoulders and the tail. It is referred to as the **saddle** in males and the **cushion** in females.

COMB

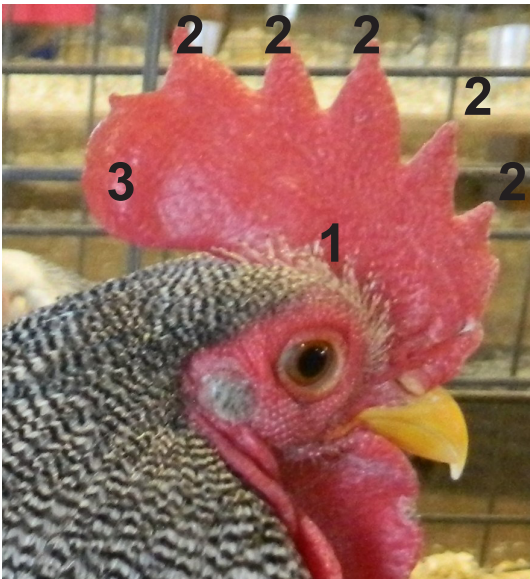
There are ten different kinds of combs. Single is the most common, followed by the rose comb. Other comb types include pea, cushion, strawberry, walnut, V-shaped, buttercup, Silkie, and carnation combs.

Single comb

The single comb is a moderately thin, flesh formation of smooth surface texture attached to the top of the skull with a strong base. The top portion has five or six deep serrations or distinct points or distinct points. The middle points are higher than the anterior and posterior points, forming a semi-oval shape when viewed in profile. The comb is divided into three sections: the front or anterior, the middle, and the posterior or blade extending past the rear base of the skull. DEFECT: A defect occurs when the single comb has **thumb marks** and the rear blade turns to one side. FAULTS: Faults on a single comb include a **twisting** in the front of the comb, irregular serration of the comb. DISQUALIFICATIONS: **Lopped** comb for breeds that should have upright single combs, side sprigs, split comb. A **side sprig** is a well-defined point or projection growing from the side of a single comb. A **split comb** is a division or split in the rear of the blade of a single comb.

Rose comb





SINGLE COMB
1.base; 2. Point; 3. Blade



SINGLE COMB
with thumb mark (defect)



SINGLE COMB
with twisted front (defect)



SINGLE COMB
lopped (disqualification)



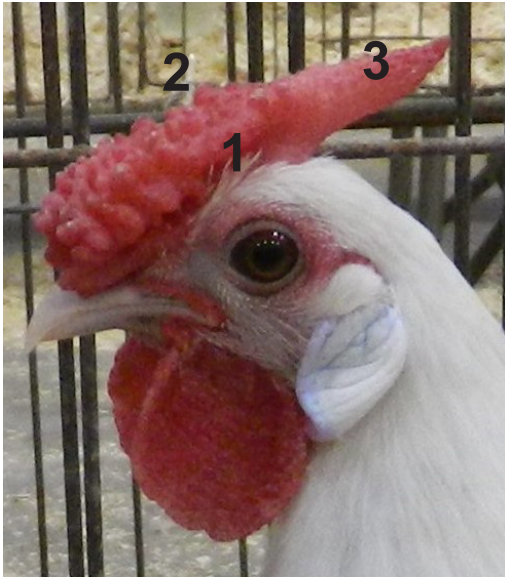
SINGLE COMB
with split blade (disqualification)



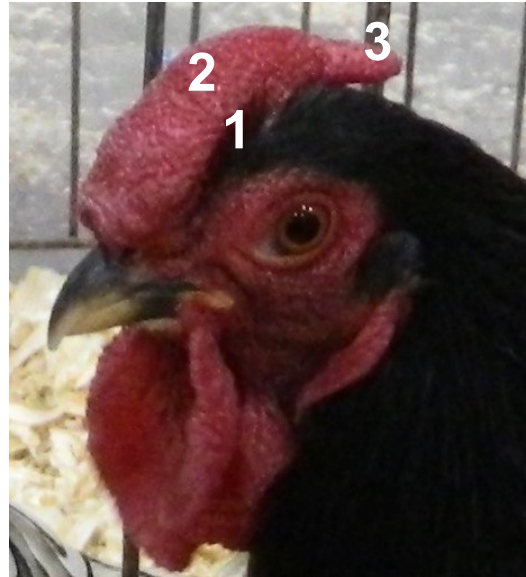
SINGLE COMB
with side sprig (disqualification)

The rose comb is a low, solid, broad comb that is nearly flat on top. It terminates in a well developed tapering spike, which may turn upward as in Hamburgs. The point can be nearly horizontal as in Rose Comb Leghorns. The point can also follow the contour of the head in Wyandottes. The top surface of the main part of the comb should be slightly convex and studded with small round protuberances. The general shape varies in different breeds. DEFECTS: A coarse surface on the rose comb is considered a defect. DISQUALIFICATION: A rose comb that lops to one side, called a **lopped comb**, is a disqualification.

Pea comb



ROSE COMB
1.base; 2. Rounded points; 3. Spike



ROSE COMB
1.base; 2. Rounded points; 3. Spike

The pea comb is a medium length, low comb, the top of which is marked with three low lengthwise ridges, with the center one slightly higher than the outer ones. For the outer ridges are either undulated or marked with small rounded serrations.

Cushion comb

The cushion comb is a low, compact comb of relatively small size. It should be quite smooth and not have any depressions or spikes. It should also not extend beyond the midpoint of the skull.

Strawberry comb

The strawberry comb is a low set, compact comb of somewhat egg shape. It has a larger portion forward and the rear extends no further than the midpoint of the skull.

Walnut comb



PEA COMB



CUSHION COMB



STRAWBERRY COMB

The walnut comb is a solid, moderately broad comb. Genetically, the walnut comb has the combination of two dominant genes, for rose and pea combs. The surface shows some furrowing reminiscent of a walnut half.

V-shaped comb

The V-shaped, as the name would indicate, is formed by two well defined, horn-like sections joined at the base to form a V-shape.

Buttercup comb

The buttercup comb consists of a single blade arising from the juncture of the head and beak rising up and slightly back to form a cup-shaped crown set squarely on the center of the skull. The rim of the cup should have an evenly spaced circle of points and be closed at the back. Points emerging from the center of the cup are a serious defect.

Silkie comb

Silkie chickens have an almost round, somewhat lumpy comb that is typically wider than it is long. It is covered with small corrugations on the top and crossed with a narrow, transverse indentation slightly to the front of the middle of the comb. Sometimes there are two or three small rear points hidden by a crest. Others have no points.

Carnation comb

The carnation comb is a somewhat rare comb and found on the Empordanesa and Penedesenca breeds. It is a single comb with two side sprigs on either side of the back of the comb.



WALNUT COMB



V-SHAPED COMB



BUTTERCUP COMB




SILKIE COMB

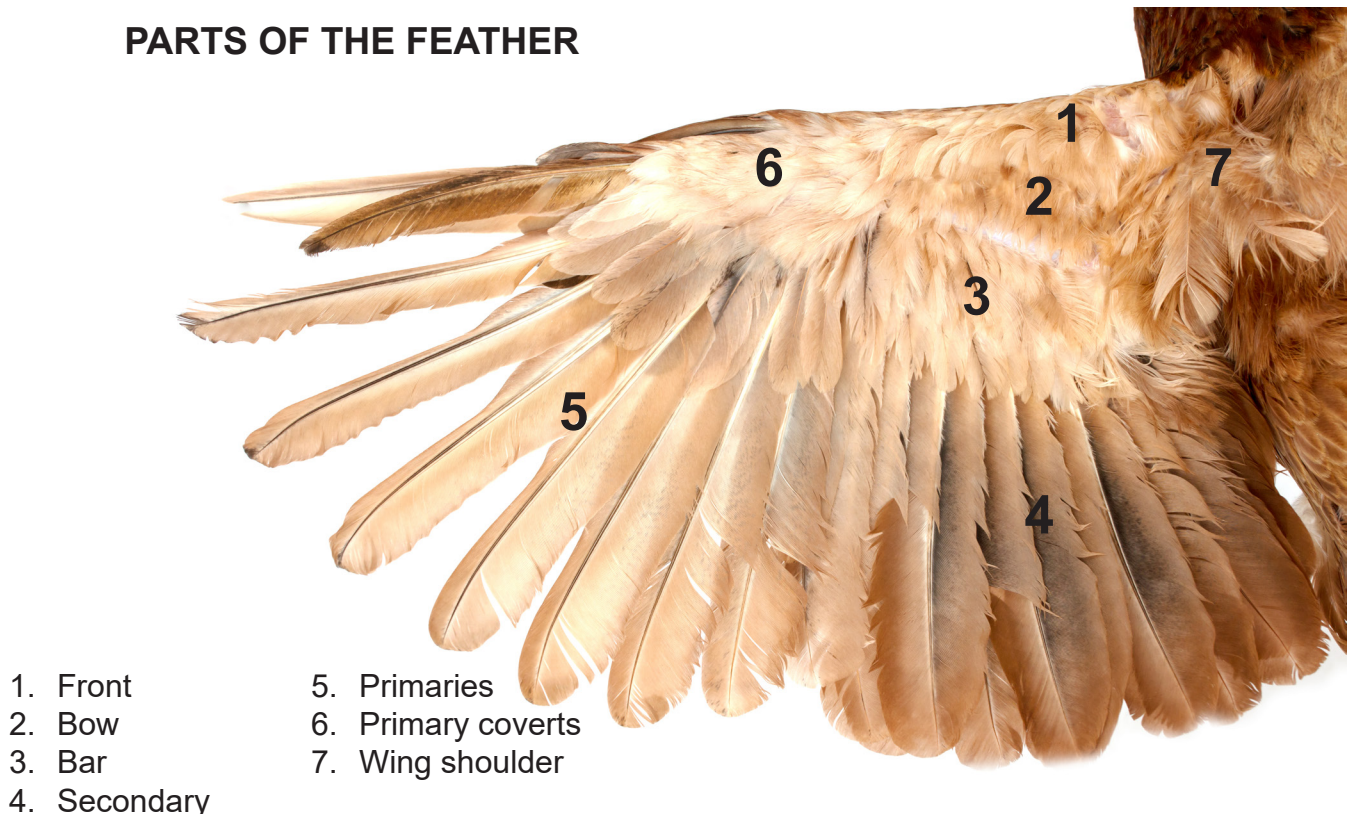
FEATHERS

All birds, including chickens, have feathers. The collection of feathers on a chicken is referred to as its **PLUMAGE**.

PARTS OF A FEATHER

 <p>The image shows a single brown feather. Labels with leader lines point to the following parts: WEB VANE (the flat, broad part), SHAFT (the central stem), FLUFF (the soft, downy base), and QUILL (the base of the feather where it attaches to the skin).</p>	<p>The QUILL is the basal hollow and transparent, hornlike portion which attaches the feather to the chicken's body.</p> <p>The SHAFT is the extension of the quill the entire length of a feather to which the BARBS are attached.</p> <p>The WEB VANE is on either side of the shaft and is formed by the barbs. The barbs are the projections from the shaft. There are BARBULES projecting from the barbs which are held in place by small hooks called BARBICELS.</p> <p>The FLUFF of the feather refers to the part composed of barbs growing from the lower part of the shaft which are not hooked together as in the web, resulting in a soft downy character.</p>
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PARTS OF THE FEATHER





The wing feathers are important for flight. There are primary and secondary flight feathers. There are 10 primary feathers and they are separated from the secondary feathers by a shorter axial feather. The feathers on the neck are referred to as the HACKLE FEATHERS. The feathers over the back are called SADDLE FEATHERS in males and CUSHION FEATHERS in females. Males have SICKLE feathers in the tail. The tips of the hackle, saddle, and sickle feathers of the male are pointed while the tips of the hackle and cushion feathers of females are rounded.



Hackle feathers on the neck: Pointed tips in males (left) and round tips in females (right)



BACK FEATHERS

Point tipped saddle feathers on the male (left) and Round tipped cushion feathers on female (right)



TAIL FEATHERS

Point tipped sickle feathers on the male (left) and no sickle feathers on female (right)

The exception is for the breeds that show hen-feathering. These are the Campine and Sebright breeds. For such breeds, the males have plumage similar to that of hens. That is, the feathers of the neck and back of the male are round tipped instead of pointed and there are no sickle feathers in the tail.

Hen-feathering is the result of simple autosome gene referred to as Hf for 'hen-feathered.' It is dominant gene so males with one or two of the hen-feathering genes will be male. If they have don't have the gene, they are not hen-feathered. It is not possible to tell if the female carries the hen-feathering gene since she is, of course, hen-feathered.

Feather pattern in females is mediated by the levels of estrogen in the skin and feather follicles of females. The skin of male chickens carrying the hen-feather gene have increased levels of aromatase which is involved in converting testosterone to estrogen. As a result the skin and feather follicles of males with the hen-feathered gene have high levels of estrogen, feminizing the plumage. Although males with one gene of each have half the level of aromatase than the ones with two, the level is sufficient to cause hen feathering.



*PAIR OF SILVER SEBRIGHT BANTAMS
Male on the left and female on the right)*

PARTS OF CHICKENS

LEARNING OBJECTIVES

Clover

- Identify ten external parts of a chicken.
- Identify three types of combs.

Intermediate

- Identify all external parts of a chicken
- Identify five types of combs.

Senior

- Identify all external parts of a chicken and types of combs.
- Identify comb defects.

KENTUCKY ACADEMIC EXPECTATIONS

1.10 Students organize information through development and use of classification rules and systems.

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

TARGETING LIFE SKILLS

<i>Clover</i>	<i>Intermediate</i>	<i>Senior</i>
<ul style="list-style-type: none">• Critical Thinking• Problem Solving• Learning to Learn	<ul style="list-style-type: none">• Critical Thinking• Problem Solving• Learning to Learn• Decision Making	<ul style="list-style-type: none">• Critical Thinking• Decision Making• Communication• Contribution to Group Effort• Teamwork• Leadership

ACTIVITY 1. Parts of a chicken

Clover

Materials needed: Copies of the blank 'parts of the head - rooster,' 'parts of the head - hen,' 'parts of the body - rooster,' and 'parts of the body - hen' sheets and the labels.

Have the clovers place the labels on the correct parts of the photos.

Intermediate

Materials needed: Copies of the blank 'parts of a rooster' and 'parts of a hen' photographs and the labels.

Activity: Have the 4-Hers work in groups to place the labels on the correct part.

Senior

Materials needed: Copies of the blank 'parts of a rooster' and 'parts of a hen' photographs and the labels.

Activity: Have the 4-Hers work in groups to place the labels on the correct part.

ACTIVITY 2. Comb types

Clover

Materials needed: Copies of the blank 'parts of the head - rooster,' 'parts of the head - hen,' 'parts of the body - rooster,' and 'parts of the body - hen' sheets and the labels.

Activity: Have the clovers work together to place the labels on the correct comb type.

Intermediate

Materials needed: Copies of the photographs of five comb types along with labels - Single, Rose, Pea, V-shaped, Buttercup, and Silkie.

Activity: Have the 4-Hers work in groups to place the labels on the correct comb type.

Senior

Materials needed: Copies of the photographs of all the comb types.

Activity: Have the 4-Hers work in groups to place the labels on the correct comb type.

REFLECTION

To complete the experiential learning model, discuss these or similar questions with the youth:

Share:

- What did we do in this activity?
- What was the goal of this activity?
- What did you learn from this activity?

Process:

- What part of the activity taught you the most?

Generalize:

- What was the most interesting thing you learned from the activity?
- What surprised you the most?

Apply:

Use the 4-Hers knowledge of the parts of the chicken to discuss the different types of breeds of chickens.

MODULE 3

BREEDS OF CHICKENS

LEARNING OBJECTIVES

Clover

- Explain basic terminology of breeds
- Identify five standard chicken breeds

Intermediate

- Explain basic terminology of breeds
- Identify ten standard chicken breeds
- Categorize breeds of chickens within the standard classes
- Determine breed selection for production system

Senior

- Explain basic terminology of breeds
- Identify twenty standard chicken breeds
- Categorize breeds of chickens within the standard classes
- Determine breed selection for production system

KENTUCKY ACADEMIC STANDARDS

1.10 Students organize information through development and use of classification rules and systems.

1.11 Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

1.12 Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

TARGETING LIFE SKILLS

<i>Clover</i>	<i>Intermediate</i>	<i>Senior</i>
<ul style="list-style-type: none">• Critical Thinking• Problem Solving• Learning to Learn	<ul style="list-style-type: none">• Critical Thinking• Problem Solving• Learning to Learn• Decision Making	<ul style="list-style-type: none">• Critical Thinking• Decision Making• Communication• Contribution to Group Effort• Teamwork• Leadership

DEFINITIONS

Chickens exist in many colors, sizes, and shapes. There are more than 350 combinations of physical features. In order to keep track of these different combinations, a classification system was developed that includes classes, breeds, and varieties. The American Poultry Association (APA) publishes a Standard of Perfection which describes the different breeds and varieties.

BREEDS

A breed is a group of chickens each of which have a given set of physical features such as body shape or type, skin color, carriage or station, number of toes, and feathered or non-feathered shanks. If such an individual is mated to one of its kind, these features will be passed on to the chicks that hatch out.

CLASS

A class is a group of breeds that originated from the same geographical region. The names of the classes indicate the region such as American, Asiatic, Continental, English, and Mediterranean,. Those breeds not fitting in those classes, are in the 'All of standard breeds' class.


VARIETY

A variety is a sub-division of a breed. Differentiating characteristics include plumage color or pattern, comb type, or presence of a beard and muffs. Examples exist in almost all breeds. For example, for the breed Plymouth Rocks, there are several color patterns including Barred, Black, Blue, Buff, Columbian, Mottled, Partridge, Silver Penciled, and White.

STRAIN

The term strain refers to a breeding population of a particular breed and variety.

PARTS OF A FEATHER

 <p>WEB VANE</p> <p>SHAFT</p> <p>FLUFF</p> <p>QUILL</p>	<p>The PLUMAGE is the collective feather covering of the entire body of a chicken. It includes the head, neck, wings, tail, and where specified, for breeds with feathers on the shanks and toes.</p> <p>The QUILL is the basal hollow and transparent, hornlike portion which attaches the feather to the chicken's body.</p> <p>The SHAFT is the extension of the quill the entire length of a feather to which the BARBS are attached.</p> <p>The WEB VANE is on either side of the shaft and is formed by the barbs. The barbs are the projections from the shaft. There are BARBULES projecting from the barbs which are held in place by small hooks called BARBICELS.</p> <p>The FLUFF of the feather refers to the part composed of barbs growing from the lower part of the shaft which are not hooked together as in the web, resulting in a soft downy character.</p>
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FEATHER COLORS AND PATTERNS

BARRED - Alternate transverse markings of two distinct colors

BIRCHEN - The wing bows, back and head are white while the front of the neck and upper part of the breast are black laced with white. The remaining plumage is black.

BLACK - The web, fluff, and shafts of all feathers, in all sections, are black.

BLUE - Refers to a general slaty color

BUFF - A medium shade of orange-yellow color with a rich golden cast, but not so intense as to show a reddish cast, nor so pale as to appear lemon or light yellow.

COLUMBIAN - This color pattern is a white with black pattern. Roosters have a white head, back, and thighs. The hackles are green-black laced with white lacing, and the main tail and sickles are solid black. Hens have white bodies with black necks laced in white, and some black tail feathers.

CUCKOO - Coarse and irregular type of barring like that seen in Dominiques, Barred Hollands, and Cuckoo Belgian Bearded d'Anvers bantams.

DUCKWING - Characterized by a distinct bar of contrasting color across the wing of the male.

LACED - A border of contrasting color around the entire web of a feather.

MOTTLED - Plumage in which a variable percentage of feathers are tipped with white, as in Anconas, Houdans, Javas, Japanese and Belgian Bearded d'Anvers. Mottled differs from spangling in that markings are always white and found only on a variable percentage of feathers, whereas in spangling the markings may be black or white and are located on the tip of each feather.

PENCILED - For chickens, the term penciled applies to two types of lines or markings on female feathers. One is the crosswise bars on feather of penciled Hamburgs. The other is the narrow concentric linear markings inside the edge on the web of the feathers, sometimes multiple as in Silver Penciled or Partridge varieties or single as in Dark Cornish females.

SPANGLE - Distinct marking of contrasting color at the extremity of a feather, proximally shaped like a well defined V with rounded end. Always is black in color and found in combination with silver or gold ground background as in Hamburgs, or white in color and separated from bay or brown ground color by a black bar as in Sussex. It also refers to the diagonal elongated black markings on the web as in Buttercups.

WHEATEN - Various shades of the color of wheat. The term is used to describe the plumage color of the females of certain varieties.

WHITE - The web, fluff, and shafts of all feathers, in all sections, are white.



BIRCHEN PLUMAGE
Rooster



BLUE PLUMAGE
Rooster



MOTTLED PLUMAGE
Hen



PARTRIDGE PLUMAGE
Rooster



CUCKOO PLUMAGE
Rooster



BUFF PLUMAGE
Rooster



WHEATEN PLUMAGE
Hen



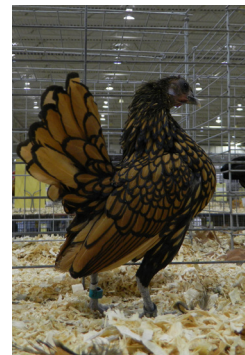
COLUMBIAN PLUMAGE
Rooster



CUCKOO PLUMAGE
Rooster



BARRED PLUMAGE
Rooster



GOLDEN-LACED PLUMAGE
Hen



SLIVER DUCKWING PLUMAGE
Rooster

STANDARD CHICKEN BREEDS

We will discuss the standard chicken breeds and eventually the 4-Hers can select a breed or two for the pullet project.

AMERICAN CLASS

In terms of geography, breeds from the American class originated from North America, in either Canada or the United States. The majority in the Standard of Perfection were developed in the United States.

Plymouth Rocks

The Plymouth Rock is a dual purpose breed in that it can be used for the production of either eggs or meat. The skin is yellow and the hen lays a brown-shelled egg. The shell color can range from very light to a dark brown depending on the strain. The chickens have a single comb that is medium in size.

The base of the comb is thick while the comb is straight and upright, with five well defined, evenly serrated points. The points in front and rear are shorter than those in the middle. The wattles are moderately long, uniform in size, with well rounded lower edges. The comb, face, wattles, and ear lobes are bright red.

In terms the station or carriage of the chickens, the back is rather long and is broad its entire length. The back is nearly horizontal from neck to saddle, then showing a slight concave sweep to the tail. The breast is broad, moderately deep, and well rounded. The legs should be set well apart and appear straight with the chicken is viewed from the front.

There are seven varieties of standard Plymouth Rock. They are Barred, Blue, Buff, Columbian, Partridge, Silver Penciled, and White.

Dominiques

Dominique chickens are often confused with the Barred Plymouth Rock, and vice-versa. This is because both are barred. The barring however, is more regular with Barred Plymouth Rock than the Dominique. The main difference, however, is the rose comb for the Dominique. There are no varieties of Dominiques.



BARRED PLYMOUTH ROCK CHICKENS
(Rooster on left and hen on right)



DOMINIQUE CHICKENS
(Rooster in the middle and hens on either side)

In terms of the station or carriage of the chickens, the back is of medium length, moderately broad, rising with a concave sweep to the tail. The breast is broad, round and carried well up.

Chickens of the Dominique breed are considered a dual purpose, medium weight chicken for the production of meat and eggs. Like the Plymouth Rock, the chickens have yellow skin and the hens lay a brown-shelled egg. The chickens have a rose comb rather than the single comb seen with the Plymouth Rock. The comb should not be so large that it hangs over the eyes or beak. It should be firm and straight on the head, square in front, and uniform on the sides. It should not have a depression in the middle. The terminating spike at the rear should turn slightly upward. The top of the comb should have small points.

Wyandottes

The silver-laced was the first variety of Wyandottes developed in the state of New York. Today there are nine varieties, including Black, Blue, Buff, Columbian, Golden Laced, Partridge, Silver Laced, Silver Penciled, and White,. Wyandottes are a medium weight, dual purpose chicken for the production of meat and eggs. The skin is yellow. Hens lay eggshell colors varying from very light to a rich brown, depending on the individual strain and the stage of production.



Wyandottes have a rose comb which is low and firm on the head. The top should not have a hollow center. The oval surface of the rose comb is covered with small rounded points. The comb should taper to a well-defined point at the rear. The entire comb should curve to conform to the shape of the skull.

In terms of carriage, the back is medium in length, broad its entire length, and flat at the shoulders. The saddle is broad, full, rising with concave sweep to the tail. The breast is broad, deep, and round.

The wattles are moderately long, nicely rounded at lower edges, uniform, fine in texture, and free from folds or wrinkles.

Javas

Javas are one of the oldest breeds of chickens. Although Javas were developed in the United States, the foundation came from the Far East. There are only two varieties - black and mottled.

Javas are a general purpose breed for the production of meat and eggs. The skin is yellow and the hens lay a brown-shelled egg. They have a single comb that is moderately small, straight and upright. It should be firm on the head, lower in the front, and evenly serrated. It should have five well-defined points and be fine in texture. The wattles are medium length, well-rounded at ends, smooth, and fine in texture.

In terms of carriage, the back of Javas is long and is broad its entire length. There is abundant saddle area. There is a slight decline to a concave sweep near the tail. The breast is broad, full, and deep.

Rhode Island Reds

There are two varieties of Rhode Island Reds based on comb type - single and rose. The single comb variety was admitted to the Standard of Perfection first. It is an important dual purpose breed capable of excellent egg production. A separate breed, the Rhode Island Whites is a separate breed and have only rose combs.

Rhode Island Reds and Whites are general purpose chickens bred for the production of meat and eggs. The skin is yellow and the hens lay a brown egg that ranges from brown to dark brown in color.

For those with single combs, the comb is moderately large, set firmly on the head and sits straight and upright. The single comb has five even and well defined points with those in front and rear smaller than those in the center. The blade of the comb is smooth, including slightly downward following the contour of the skull. For those with rose combs, the comb is moderately large, firm on the head, oval, and does not have a hollow center. The surface of the comb is covered with small rounded points, terminating in a spike at the rear. The spike droops slightly, but not conforming too closely to the shape of the head. The wattles are medium size, uniform, and free from folds or wrinkles.

With regards to the carriage of the chickens, the back is long, moderately broad its entire length. The saddle is moderately broad. The body should be carried horizontally. The breast is moderately deep, full, and well-rounded. The legs should be set well apart and appear straight when viewed from the front,

Buckeyes

The Buckeye breed, as the name would suggest, originated in Ohio, 'The Buckeye State.' The color of the plumage is similar to the richly colored buckeye nut. They are a general purpose chicken for the production of meat and eggs. Like the others in the American class discussed so far, they have yellow skin and the hens lay brown-shelled eggs.

The Buckeyes have a pea comb that is medium in size, firm, and set closely on the head. The wattles are moderately small, well-rounded, and smooth. In terms of carriage, the back is rather long, broad throughout its length, and sloping slightly downward to the base of the tail. The saddle is medium in length. The breast is broad, deep, well-rounded, and carried somewhat elevated above the horizontal.

Chanteclers

The Chantecler is one of the few chicken breeds developed in Canada. It was bred to have a vigorous and rustic temperament to resist the climatic conditions of Quebec. It is a general purpose chicken and able to lay well in the winter. The comb and wattles are minimal to prevent frost bite. It was developed from the White Leghorn, Dark Cornish, Rhode Island Red, and White Wyandotte blood lines. There are only two varieties, the White which was developed in Quebec, and the Partridge which was developed in Edmonton, Alberta.

Chanteclers have cushion combs which are rather small, set firm and low on the fore part of the head. The rear and sides are nearly straight. The surface is smooth and the rear is free of points. The wattles are very small, well-rounded and smooth.

The Chanteclers are a general purpose chicken for egg and meat production. Again, the skin is yellow and the hen lays a brown-shelled egg.

In terms of carriage, the back is long and broad its entire length. The back curves sharply into the tail. There is abundant saddle area. The breast is broad, deep, well-rounded, and carried forward.

Jersey Giants

As the name would imply, Jersey Giants were developed in the state of New Jersey. They are large and a very heavy chicken. There are three varieties - black, white and blue.

Jersey Giants are a general purpose chicken for heavy meat and egg production. The skin is yellow and the egg shells range from brown to dark brown.

Jersey Giants have a single comb that is rather large, straight, and upright. It has six well-defined and evenly serrated points and the blade of the comb follows the contour of the neck. The wattles are medium size, well-rounded at lower ends, fine in texture, and free from folds or wrinkles. The earlobes

are moderately large, extending down one half the length of the wattles. The head is rather large and broad. The back is rather long, broad, and nearly horizontal, with a short sweep to the tail. The breast is broad, deep, full, and carried well forward. The keel bone is long.

Lamonas

Lamonas originated in Maryland. They are a heavy breed and, unlike most of the others in the American class, lay a white shelled egg. The skin is yellow. They are a general purpose chicken for meat and egg production. There is only one variety - White.

Lamonas have a single comb that is moderately large, straight and upright. It has five evenly serrated, well-defined points with the front and rear points being shorter than those in the middle. The wattles are moderately large and well-rounded. Lamonas are one of the few breeds in which the hens have red earlobes but lay white shelled eggs.

The back is long, straight, and broad its entire length. The back declines to the tail. The breast is broad, deep, full, well-rounded, and carried well forward. The lower thighs are large, moderately short, and well meaty. The shanks are moderately short, stout, and round in bone.

New Hampshires

The New Hampshire was developed from the Rhode Island Red. Special meat type strains are now developed featuring extremely rapid growth and increased weights. This type has a very light shade of surface color for better dressing the carcass. The extreme meat type strains, however, do not have the egg production qualities of the dual purpose New Hampshire. The latter is a very popular general purpose utility chicken for meat and egg production. The chickens have yellow skin and the hens lay a brown-shelled eggs. There are no varieties.

The New Hampshires have a single comb, medium is size, well-developed, smooth texture, firm at the base, and having five well-defined points. Again, the points in the front and rear of the comb are smaller than those in the center. The comb sits straight and upright in front but included to the top at the rear. The wattles are medium-sized, well-developed, and well rounded. The ear lobes are elongated, smooth, and set close to the head.

The back is medium length and broad its entire length, forming a gradual concave sweep to the tail. The breast is deep, full, and well-rounded.

Hollands

The Holland breed was developed in the United States from previous matings imported from Holland, thus the name. The White Leghorns, Rhode Island Reds, New Hampshires and Lamonas were used to develop the White Holland. Matings from White Leghorns, Barred Plymouth Rocks, Australorps, and Brown Leghorns were used to produce a similar chicken with a barred feather pattern, called the Barred Hollands. Both are general purpose chickens for meat and egg production. They have yellow skin.

Hollands are another breed with red earlobes that lays a white shelled egg. They have a single comb that is moderately large, straight, and upright. The comb is evenly serrated with six, well-proportioned points. The front and rear points are shorter than the others. The wattles are moderately large and oval.

The back is medium in length, broad throughout the length, with a slight downward slope to the base of the tail. The saddle is abundant, filling in well in front of the tail. The breast is broad, full, and well-rounded. The lower thighs are stout and moderately long.

Delawares

The Delawares were developed from crosses between barred Plymouth Rock males and New Hampshire females. They are named for the state in which they were developed. They are a dual purpose breed with well developed egg and meat characteristics. Prior to the hybrid broiler, the Delaware was the meat chicken of choice.

Delawares may be mated to New Hampshire or Rhode Island Red males and sex-linked chicks result. The males will have the Delaware pattern of their mother and the females will have solid red feathers like that of their father. The day-old chicks may be sexed based on feather color.

Delawares have a single, moderately large, single comb that is well developed, set firmly on the head, perfectly straight, and having five well defined points. Again, the points in the front and rear are smaller than the others. The blade is smooth, inclining slightly downward, but not following the contour of the neck too closely. The wattles are moderately large, uniform, and free from folds and wrinkles. The earlobes are elongated ovals, smooth, and fitting close to the head.

The back of the Delaware is moderately long, nearly horizontal, broad its entire length, and forming a concave sweep from the saddle to the tail. The breast is deep, full, broad, and well-rounded.

ASIATIC CLASS

The breeds in the Asiatic class were developed in Asiatic countries, in particular China.

Brahma

The Brahma has was developed in China but it wasn't long after it arrived in North America before it became popular for poultry fanciers in New England. The head and skull are important breed characteristics. Texture of the feathers is also important. The plumage should be smooth fitting and not loose-feathered and soft as seen in another Asiatic breed, the Cochin.

The Brahma is a general purpose chicken for heavy meat production. The skin is yellow and the hens lay an egg that ranges from light to dark brown in color

Brahmas have a pea comb. It should be small, firm and even on the head. It should be lower and narrower in the front and rear than at the center. Each row is evenly serrated with the points in the front and rear being smaller than those at the center. The wattles are medium in size and well-rounded. The earlobes are large with the lower edges on a level with or slightly below edges of the wattles.

The head is medium in length, deep and broad. The skull projects over the eyes. The back is rather long, flat across the shoulders and broad. The back is carried its width well back to the tail, rising with slightly concave incline from shoulders to middle of the saddle where it takes a more pronounced concave sweep up to the tail. The breast is broad, deep, full, and well-rounded.

The thighs are stout and well-feathered. The shanks are well covered on the outer sides with feathers. There are three varieties of Brahma based on plumage - Buff, Dark, and Light.

Cochin

The Cochin breed was originally called the Chinese Shanghai fowl when it came to England and America. The striking appearance of the Cochin is due to the great size and profuse soft feathering. Cochins created a sensation in England, resulting in a great demand for the 'Cochin China' as it was called. Both the male and females are massive in appearance, with extra-ordinary profusion of long, soft plumage and a great abundance of down fiber under the under-fluff. The result of all this feathering is a rather bulky appearance giving the idea of greater weight than actually exists.

The Cochin is bred primarily for exhibition. There are nine varieties of Cochin based on plumage - Barred, Black, Blue, Brown, Buff, Golden Laced, Partridge, Silver Laced, and White. The Cochin is capable of being bred as a meat type chicken. The skin is yellow and the hens lay a brown shelled egg.

Cochins have a single comb of medium size that sits firmly on the head. It is stout at the base, straight from front to rear and low in front. The comb is regularly divided into five points by serrations that are moderately deep. The middle point is the highest. The wattles are rather long, well-rounded at the lower edges, thin and fine in texture. The earlobes are smooth, well-defined, and about two-thirds as long as the wattles.

The back is short in appearance, very broad and well-rounded. The shoulders are very broad. The back is flat under the hackles. The saddle or cushion rising at the base of the hackle or cape are very broad and round. The wings are small and carried well-up and well-folded. The breast is carried forward, very full, well-rounded, and of great breadth and depth.

The hocks are covered with flexible feathers, curving inward about the joints. The shanks are short and stout. There is feathering beginning just below the hocks and covering the front and outer sides of the shanks, from which it should be outstanding. The upper part of the plumage on the shanks grows out from under the thigh plumage and continuing into foot feathering. There should be no marked break in the outlines between the plumages of these sections. They should merge naturally into each other and blend together.

Langshan

The Black Langshan originated in China where it has been bred for many years. Langshans are the dual purpose chickens of the Asiatic class. They are smaller than the Brahma and Cochin, and more active. The male develops a large, well-spread tail with feathers of great length, the sickles often measuring sixteen or seventeen inches long. The closely-fitted saddle feathers, fully-hackled neck, and upright carriage, give the Langshan the look of a short back.

The Langshan is a general purpose chicken for the production of meat and eggs. While the skin of the Brahma and Cochin are yellow, the skin of the Langshan is white. The hens lay eggs with very dark brown shells.

The Langshan has a single comb, of medium size, that is straight and upright. It has five points which are evenly serrated. It does not conform closely to the neck. It is fine in texture. The wattles are moderate in length and well-rounded. The earlobes are oblong and well-developed. The back is short, broad and flat at the shoulders and rising in a decidedly sharp concave sweep to the tail.

The lower thighs are moderately long, strong and well feathered. The shanks are moderately long, stout, straight, and feathered down the outer sides.

There are three varieties of Langshans based on plumage - Black, Blue, and White.

ENGLISH CLASS

Breeds in the English class were developed in England.

Dorkings

The Dorking is one of the most ancient of all domesticated breeds of chickens. It was brought to Great Britain by the Romans with Julius Caesar. It is a dual purpose breed for meat and egg production. The skin is white. The Dorking breed is one of the exceptions to the rule regarding ear lobe color and egg shell color. The Dorkings have a red ear lobe but the hens lay a white shelled egg.

The Silver Gray and Colored Dorkings have single combs while the White Dorkings have a rose comb. The single comb is rather large, straight, and upright. It is evenly serrated, having six well-defined points. The front and rear points are shorter than the other four. The rose comb is square in front and even on the head terminating in a well-defined spike. The top is comparatively flat and covered with small rounded points. The wattles are rather large, well-rounded at the lower end. The ear lobes are medium in size, about one-half the length of the wattles and smooth. The back is long and broad its entire length. It is straight and declining to the tail. The breast is broad, deep, full, well-rounded, and carried forward.

Dorkings are also characterized by a fifth toe on each foot. The front and fifth toes are moderately long and smooth. The fifth toe is well separated from the fourth toe and directly above it, rising in an upward curve from the base to tip.

There are five varieties of Dorkings - White, Silver-gray, Colored, Red, and Cuckoo.

Redcaps

The Redcaps originated in Derbyshire, England. It is believed to be from a Hamburg crossed with other breeds. The very large rose comb is the most striking feature of the breed. They are good egg producers. Like the Dorkings, the Redcaps have red ear lobes but the hens lay white-shelled eggs.

The Redcaps have a rose comb that is large, wide, and sits squarely in front of the top of the head. It is uniform on both sides and covered with comparatively long, rounded points. The comb is flat and set evenly on the head without inclining to either side. It terminates at the rear in a well-developed and straight spike.

The wattles are moderately long and smooth. The ear lobes are medium in size and smooth. The back is rather long, fairly broad, sloping straight to the tail. The breast is broad, very prominent, and carried well up.

There are no varieties of Redcaps.

Cornish

The Cornish breed originated in Cornwall, England. This was the Dark Cornish, the parent breed generally known abroad as "Indian Game" although the name Cornish is the correct one. A distinguishing feature of the Cornish is that the body of both the males and females has the same conformation. The texture of the feathers is another strong characteristic in the breed. The body plumage is close fitting. The feathers are short, hard, and quite narrow. The well-knitted webs of the feathers give brilliance to the plumage.

The Cornish is a super heavy meat producing chicken that was used for crossing with other breeds for the production of commercial chicken meat strains.

Cornish have a pea comb that is firmly and closely set on the head. The beak is short and stout. The back is medium in length. The top line of the back slopes downward in a slightly convex line from the base of the neck to the tail. It is broad and well filled in at the base of the neck. The back is very broad across the shoulders, carrying the width well back to the thighs. The hip bones are very wide apart. The breast is very broad and deep, and prominently well-rounded at the sides. It is carried higher in front than in the back. The great depth of the body is near the front of the breast bone and not lower than the level with the vent. The keel bone is long and well embedded with flesh. The lower thighs are medium length and well fleshed.

There are four varieties of standard Cornish - Buff, Dark, White, and White Laced Red. The ear lobes are red and the hens lay brown-shelled eggs. The skin is yellow.

Orpington

The Orpington breed was developed at Orpington in Kent County in England. The plumage is an important characteristic of the breed. The feathers are broad and smooth fitting on the deep and massive body of the chicken. The chicken appears massive. There are abundant feathers on the back.

The Orpington is a general purpose breed for heavy meat production and for eggs. The skin is white and the hens lay eggs that are light brown to dark brown in color.

Orpingtons have a single comb that is of medium size and set firmly on the head. It should be perfectly straight and upright with five well-defined points. The points at the front and rear are smaller than those in the middle. The comb is of fine texture and the blade closely follows the shape of the head.

The back of the Orpington chicken is board and flat at the shoulders. It is relatively long and the width of the back is carried well back to the base of the tail, rising with a slight concave sweep to the tail.

There are four varieties of Orpingtons - Black, Blue, Buff, and White.

Sussex

The Sussex is a very old breed which originated in the County of Sussex, England over a century ago. It was originally bred for market purposes. The Sussex was famed for its production of table chicken since the size and shape of the breed make it desirable for fattening. This quality, along with the white flesh and legs, appeals to English poultry keepers.

The Sussex is a dual purpose chicken for the production of meat and eggs. The skin is white. The ear lobes are red and the hens lay brown-shelled eggs.

Sussex have single combs that are medium in size and set firmly on the head. The comb sits straight and upright and has five defined posts. The points in the front and rear are smaller than those in the middle. The blade of the comb follows the curve of the neck. The wattles are medium in size, equal in length, and well-rounded at lower edges.

The back is long. It is flat and broad its length and slopes slightly at the tail. The breast is broad, deep, and rounds nicely into the body.

There are three varieties of Sussex - Light, Red, and Speckled.

Australorp

The Australorp was developed in Australia as an egg production breed. It is a medium weight, active chicken that lays a tinted egg.

The Australorp has a single, moderately large and sets firmly on the head. It should be perfectly straight and upright and free from any indentations. It should be evenly serrated with five distinct points. The one in front is shorter than the other four. The blade slightly follows the shape of the head.

The back of the chicken is moderately long, broad its entire length, and slopes slightly downward from the shoulders to the center of the back before rising in a gradually increasing concave to the tail.

There is only one variety of Australorps - Black.

MEDITERRANEAN CLASS

Breeds in the Mediterranean class were developed in the countries that surrounded the Mediterranean Sea. The countries include Italy and Spain.

Leghorns

The Leghorn breed came from Italy but its many varieties originated or were developed in England, Denmark, and America. The Leghorn chickens are characterized by great activity, hardness, and prolific egg layers. The females do not normally go broody. The hens have white ear lobes and lay white-shelled eggs. Single Comb White Leghorns were the foundation for the commercial white-egg producing strains.

Some varieties of Leghorns have can have single or rose combs. The single comb is of medium size and deeply serrated with five distinct points. The comb of males extends well over the back and comb sits straight and upright. It is firm and even on the head. For females, the front portion of the comb and the first point stand erect but the remainder of the comb droops gradually to one side.

The rose comb is medium size, square in the front, and sits firm and even on the head. The comb tapers evenly from the front to the rear and terminates in a well-developed spike which extends horizontally well back of the head. The rose comb is flat and does not have hollow center. It is covered with very small, rounded points.

There are twelve varieties of Leghorns, including Rose Comb Black, Single Comb Black, Rose Comb Buff, Single Comb Buff, Rose Comb Dark Brown, Single Comb Dark Brown, Rose Comb Light Brown, Single Comb Light Brown, Rose Comb Silver, Single Comb Silver, Rose Comb White, and Single Comb White.

Minorcas

Minorcas were originally called Red-Faced Black Spanish. They are the largest and heaviest of the Mediterranean breeds of chickens. They have long strong bodies, large combs, long wattles, and large white ear lobes. They also have large and full tails.

Minorcas are an excellent egg producers. The skin is white. The ear lobes are white and the hens lay a white-shelled egg.

There are five varieties of Minorcas - Single Comb Black, Rose Comb Black, Single Comb White, Rose Comb White and Single Comb Buff. The single comb is large, straight, and upright. The comb sits firm and even on the chicken's head, is smooth, and is deeply and evenly serrated. It has six distinct points with the middle point being the longest and the same length as the width of the blade. The front should not extend beyond the point half-way between the nostrils and the point of the beak, but extend well over the back of the head with a tendency to follow the shape of the neck.

The rose comb is moderately large and square in the front but not covering the nostrils. It sits firm and even on the head, tapering evenly from the front to the rear. The comb terminates in a well-developed spike which extends well back of the head with a tendency to follow the shape of the neck. The top of the comb is flat, does not have a hollow center, and covered with small rounded points.

The back is long and flat at the shoulders. It is broad the entire length and rounded at the sides, sloping slightly downward to the tail. The breast is broad, deep, well-rounded and prominent.

White Faced Black Spanish

The White Faced Black Spanish is probably the oldest breed in the Mediterranean class. The large, smooth, white face and ear lobes are distinct characteristics of the breed. The chickens have white skin and the hens lay a white-shelled egg. The hens do not typically go broody.

The White Faced Black Spanish chickens have single combs which are medium-sized and sit straight and upstanding. It is firm and even on the head, rising from the base of the beak and extending in an arch from beyond the back of the head. The comb is deeply and evenly serrated, having five points. The wattles are smooth, long and thin.

The ear lobes are large, free from folds or wrinkles, meeting in front, extending well backward on each side of the neck and hanging low and regularly rounded on the lower edges. They are very smooth and extend somewhat below the wattles.

There are no varieties of the White Faced Black Spanish.

Andalusians

Andalusians are credited with being natives of Andalusia, which is province of Spain. Hens typically do not go broody. The chickens have white skin and white ear lobes and the hens lay white-shelled eggs.

Andalusians have a single comb of medium size that is smooth, straight, and upright. It sits firmly and even on the head. The comb has five well-defined points with the middle point that is slightly longer and proportionally broader than the other four points. The blade follows slightly the curve of the neck.

The back is rather long, moderately broad its entire length, and high at the shoulders, sloping slightly to the tail. The breast is broad, deep, well-rounded and carried well up and forward.

There is only one variety - Blue

Anconas

The Ancona breed takes its name from the City of Ancona which is a port in Italy from which the first Anconas were shipped to England. Anconas are excellent egg producers and the hens do not typically go broody. The hens have white ear lobes and lay white-shelled eggs. The chickens have yellow skin.

There are two varieties of Andalusians based on comb type - Single and Rose. The single comb is medium in size, straight, and upright. It sits firm and even on the head. The single comb has five distinct points which are deeply serrated. The comb extends well over the back of the head with no tendency to follow the contour of the neck.

The rose comb is medium in size, square in front and firm and even on the head. The comb tapers evenly from the front to the rear and terminates in a well-developed spike that extends horizontally well back of the head. The rose comb is flat and free from hollow centers. It is covered with small, rounded points.

The ear lobe are a broadened, almond shape of moderate size. It is smooth and fits close to the head. The wattles are moderately long, uniform, well-rounded, fine in texture, and free from folds and wrinkles.

The back of Anconas are of good length and rather wide its entire length. The back is somewhat rounded at the shoulders, slightly sloping downward from the shoulders to the saddle or cushion then rising with a concave sweep to the tail. The breast is well-rounded and carried well forward.

Sicilian Buttercups

The Sicilian Buttercup, as the name implies, originated in Sicily. The most common characteristic is the cup-shaped comb. The chickens have yellow skin. They have white ear lobes and the hens lay a white-shelled egg. The hens do not typically go broody.

The comb is a cup-shaped crown well set on the center of the skull with a complete circle of medium-sized regular points. The entire comb is smooth, of fine texture, and with a deep cavity. The wattles are medium length, thin, and well-rounded. The ear lobes are almond-shaped, flat and smooth, fitting closely to the head.

The back is long, moderately broad and straight sloping downward to the saddle or cushion then rising with a slight concave sweep to the tail. The breast is broad, full, and carried well forward.

There are no varieties of Sicilian Buttercups.

Catalanas

The Buff Catalanas is known as Catalana del Prat Leonada because it was a natural breed among the farmers in the district of Prat, near Barcelona in Spain. This breed is popular in Latin American countries and has attracted only limited following in Canada or the United States.

The Catalana is noted for its vigor and hardiness. It is a dual purpose breed for both meat and egg production. The eggs are relatively large compared to most standard chicken breeds. The skin is a pinkish white color. The ear lobes are white and the hens lay a white-shelled egg. The eggs may have a very light tint depending on the strain.

The Catalana has a single comb that is relatively large, straight, and erect. It is firmly set on the head with six well-formed points. The points at the front and rear are shorter than those in the center and the blade extends well to the rear of the head. The blade has tendency to follow the curve of the neck. The wattles are large and long. The ear lobes are oval, large and well set to the head.

The back of the Catalana is straight and broad its entire length. It is moderately long and sloping slightly downward to the tail. The breast is broad, deep, well-rounded and prominent.

There is only one variety of Catalanas - Buff.

CONTINENTAL CLASS

The breeds in the Continental class are divided into three areas of continental Europe. They are the breeds from Northern Europe, Poland and France.

Barnevelders

The Barnevelders originated in the district of Barnevelder in Holland. They have yellow skin. The ear lobes are red and the hens lay a brown-shelled egg. Barnevelders are most commonly raised for brown egg production.

Barnevelders have a single comb that is medium in size, straight and upright. It is evenly serrated with five well defined points. The wattles and ear lobes are medium in size.

The back is well balanced and concave. It is medium in length, broad and deep. The breast is deep, broad, and full.

There are no varieties of Barnevelders. The feathers are black with slight reddish-brown edging and reddish brown shafts. The tips of the feathers are black.

Campines

Campines originated in Campine County, Belgium. Campines carry more weight than their appearance indicates due to the plumage being close-fitting. The Campines were bred for egg production and the hens are classed as non-sitting (don't go broody). The chickens have yellow skin. The ear lobe is white and the hens lay a white-shelled egg.

They have a single comb that is medium in size, straight and upright. It sits firm and even on the head. The comb is deeply serrated with five distinct points. The comb extends well over the back of the head. The blade is carried slightly below the horizontal. The wattles are medium in length and well rounded. The ear lobes are oval in shape but rather broad, smooth and of moderate size. It fits closely to the head.

The back is rather long, slightly sloping to the tail, and moderately broad at the shoulders and narrowing very slightly toward the tail.

There are two varieties of Campines - Silver and Golden. The Campine is hen-feathered in that the hackle and saddle feathers of the male are round tipped instead of pointed typical of males.

Hamburgs

The Hamburg is a very old breed. The name of the breed is German, but the origin is Dutch. The symmetrical body, graceful carriage and attractive color patterns of Hamburgs have made them popular exhibition varieties, but Hamburgs are also prolific producers of eggs. In fact, in England they were once known as the "Dutch Everyday Layer." The skin is white. The ear lobes are white and the hens lay white-shelled eggs.

Hamburgs have rose combs that are medium in size and not so large as to overhang the eyes or beak. It sits square in front and is firm and even on the head. It is even on both sides and terminates at the back with a moderately long, pointed spike which inclines upward very slightly. The wattles are medium sized, thin, round and prominent. The ear lobes are moderately large, flat, round, smooth and even, fitting closely to the head.

The back is moderately long, full, and well expanded. It is carried at an angle of forty degrees above horizontal. The breast is round, prominent, and carried well forward.

There are six varieties of Hamburgs - Golden Spangled, Silver Spangled, Golden Penciled, Silver Penciled, White, and Black.

Lakenvelders

The Lakenvelder is an old established breed of German origin. It is bred mainly for egg production and the hens are classed as non-sitters. The skin is white in color. The ear lobes are white and the hens lay a white-shelled egg, although it can be tinted in some strains.

They have a single comb that is of medium size, firm and upright. It is somewhat rounded and slightly follows the head. It has five distinct points but is not too deeply serrated. The wattles are medium in length, well-rounded and free from folds. The ear lobes are small, oblong and fit closely to the head.

The back is medium in length and moderately broad its entire length. It is nearly horizontal, rising with a concave sweep to the tail. The breast is full, well-rounded, and carried well forward.

There are no varieties of Lakenvelders. They are characterized by their black and white plumage.

Welsummers

Welsummers are named after the village of Welsum in Holland. It is popular in the United States with small and backyard flock owners as a layer of very dark brown colored eggs. The skin is yellow and the ear lobes are red.

They have a single comb that is medium in size, firm and upright, and free from any twists or folds around the nostrils. It has five regular and distinct points. The back of the comb follows close but not touching the line of the skull and neck. The wattles are medium-sized, fine textured, and close together. The ear lobes are small and almond shaped.

The back is broad, long, and sloping slightly to the tail. The breast is full, well-rounded, and broad.

There are no varieties of Welsummers.

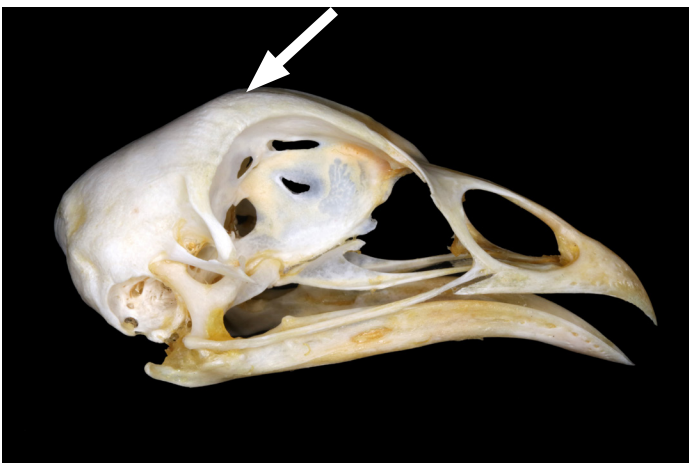
Polish

The Polish is an old breed, once known as the Crested Dutch. It is prized primarily as an exhibition breed. The most striking feature of the Polish is the large protuberance or knob on top of the skull from which the crest of feathers grow.

There are eleven varieties of Polish - Non-Bearded White Crested Black, Non-Bearded Golden, Non-Bearded Silver, Non-Bearded White, Bearded Golden, Bearded Silver, Bearded White, Bearded Buff Laced, Non-Bearded Buff Laced, Non-bearded White Crested Blue, and Non-Bearded Black Crested White.

The comb is V-shaped, of small size. The smaller the better. It is set evenly on the head and retreats into the crest of feathers. A natural absence of comb is preferred. The nostrils are large, wide and cavernous. For the non-bearded varieties, the wattles are uniform, thin, and well-rounded on the lower edges. The wattles of the bearded varieties are very small or absent. Absence is preferred. For the non-bearded varieties, the ear lobes are small and smooth. For the bearded varieties the ear lobes are completely covered by the beard.

The back is straight, wide across the shoulders, tapering to the tail. The breast is full and prominent.



Typical chicken skull. The white arrow indicates where the knob is located on Polish and Crevecoeur chickens from which the crest of feathers project.

Houdans

The Houdan is an old French breed. It was known as the Normandy Fowl when first imported into England. It takes its present name from the town Houdan located in a section of France.

In shape, the Houdan resembles the Dorking from which it probably owes its fifth toe. The Houdan is highly esteemed in France for its fine meat qualities and its large white eggs. The breed is a general purpose breed, non-sitting breed for the production of meat and eggs. The skin is white. The ear lobes are white and the hens lay a white-shelled egg.

The chickens have a large, well-fitted crest of feathers on the crown of the head. For males, the crest falls backward on the neck, and is composed of feathers similar in shape to those of the hackle feathers. The crest of the female is large, compact and globular.

The comb is V-shaped of small size that sits resting against the front of the crest.

There are two varieties of Houdans - Mottled and white.

Crevecoeurs

Little is known about the origin of the Crevecoeurs. They appear to have originated in Normandy and took their name from a village in that country. Crevecouers are large, handsome, and useful chickens. They are similar in type and utility to the Houdan. They are considered a general purpose chicken for meat and eggs. The skin is white.

The Crevecouers are an exception to the earlobe and egg color rule since the earlobes are red but the hens lay a white-shelled egg.

Like the Houdan, Crevecoeurs have a large crest of feathers on the crown of the head. Like the Polish, they have a pronounced protuberance on top of the head where the crest feathers originated. They also have a V-shaped comb of medium size and resting against the front of the crest. The wattles are uniform in length, small, well-rounded and nearly concealed by the beard. The ear lobes are small and nearly concealed by the crest and beard.

The back is broad and straight. The breast is broad, full, and rounding well to the shoulders.

There is only one variety of Crevecouers - Black.

La Fleche

La Fleche chickens have been bred for many years in the Valley of La Sarthe, where the town of La Fleche is located. The chickens have a high carriage, large white ear lobes, a V-shaped comb and a trace of a crest on the head. The wattles are uniform, well-rounded, and pendulous.

La Fleche is a general purpose chicken for the production of meat and eggs. The skin is white. The ear lobes are white and the hens lay a white-shelled egg.

The back is broad, very long, sloping to the tail. The breast is broad, full and very prominent.

There is only one variety of La Fleches - Black.

Faverolles

Faverolles originated in the village of Faverolle, France where they were bred primarily as a utility chicken. The main object of the breeders was the production of heavy table chicken and winter eggs. Unlike other French breeds, Faverolles, which have bright red ear lobes, lay a tinted egg shell instead of white-shelled eggs. The skin is white.

They have a single comb that is medium sized, straight and upright. It is evenly serrated with five well-defined points. The front and rear points are shorter than the other three. They have a beard and muffs. The ear lobes are oblong and concealed by the beard. The wattles are small and well-rounded. The back is broad and flat, almost square. The breast is broad, deep and carried well forward. The shanks are slightly feathered and there are five toes on each foot. The fifth toe is distinct from the others and curved upward. The outer toes are slightly feathered.

There are two varieties of Faverolles - Salmon and White.

ALL OTHER STANDARD BREEDS

Modern Games

The Modern Game is strictly a poultry fancier's creation. In type it is very different from the Old English or Pit Game bred in the days when cockfighting was popular in Great Britain. It is a high stationed Game Fowl with a style and carriage peculiar to itself. Station of Modern Games is of great importance in breeding. Shortness and hardness of the feathers are also important. The chickens are very erect. The ideal pose shows the head directly above the feet. The comb, wattles, and ear lobes of the cock should be dubbed in order to have the head, lower mandible, and throat smooth and free from ridges.

The undubbed comb in males is single, small, and straight with five points. It is thin, erect and evenly serrated. The wattles of the female are small, thin and round. The ear lobes are small.

The back is flat, rather short, straight on top from base of neck to tail. It is broad at the shoulders, narrowing and sloping to the back. The breast is broad and rounded at the sides.

The ear lobes are dark red, mulberry, or dark purple depending on the variety and sex. The hens lay a brown-shelled egg.

There are nine varieties of Modern Games - Black Breasted Red, Brown Red, Golden Duckwing, Silver Duckwing, Birchen, Red Pyle, White, Black, and Wheaten.

Old English Games

The Old English Game most resemble the ancestors of all the chicken breeds - the Red Junglefowl of Southeast Asia. They were first domesticated for cockfighting. After cockfighting became illegal, the Pit Game was bred for exhibition and became known as the Old English Game. The Old English Game is well known for its hardiness, vigor, and longevity and the bloodline has been used in the development of many different breeds.

When shown, male Old English Game chickens must be dubbed. If undubbed, they have a single comb that is small and straight with five points. It is small, thin, erect, and evenly serrated. The wattles of the females are small, thin, smooth and of fine texture. The ear lobes are small and fine in texture. The ear lobes are dark red, mulberry or purple depending on the variety and sex, and the females lay a brown-shelled egg.

The keel bone is straight, of medium length, tapering well upward behind. This gives the appearance of a small, rounded, and compact abdomen. There are four toes on each foot and the back toe is carried well backward and flat on the ground..

There are fourteen varieties of Old English Game - Black Breasted Red, Brown Red, Golden Duckwing, Silver Duckwing, Red Pyle, White, Black, Spangled, Blue-Breasted Red, Lemon Blue, Blue Golden Duckwing, Blue Silver Duckwing, Self Blue, and Crele.

Orientals

Sumatras

The Sumatras are native of Sumatra, an island in the Far East. The chicken has a graceful form and distinct carriage. The body is moderately long, firm, muscular, and tapering to the tail. The Black variety has the richest of lustrous, greenish black, plumage throughout. Its particular characteristic is the flowing tail for the male, which has an abundance of long, sweeping sickles and coverts. In addition, the males have multiple spurs. The skin is yellow in color.

Rather than red or white ear lobes, the ear lobes of the Sumatra are referred to as gypsy color. So are the comb, face, and wattles. The hens lay a white or light tinted egg.

The Sumatra has a small pea comb. The wattles and ear lobes are very small. The back is long, broad at the shoulders, narrowing slightly and sloping gently to the tail. The breast is broad, round, and full.

There are two varieties of Sumatras - Black and Blue.

Malays

The Malay originated in Asia. Its chief characteristics are great length of leg, and the sinister expression caused by a broad skull and projecting beetle eyebrows. Malay blood was used in the early development of early standard breeds. The skin is yellow. The ear lobes are red and the hens lay a dark brown egg.

Malays have a strawberry comb that is moderately small, set well forward on the head. The wattles and ear lobes are very small. The back is rather long, slanting, rather convex in outline, and tapering to the tail. The back is also large and broad at the shoulders. The breast is broad and full. The breast bone is deep and prominent. The skin is usually bare of feathers at the keel line.

Malays stand very erect, similar to Modern Games.

There are six varieties of Malays - Black Breasted Red, Spangled, Black, White, Red Pyle, and Wheaten (females only).

Cubalayas

Cubalayas originated in Cuba where they were extensively bred. They are considered an Oriental breed since they can trace back to chickens coming from the Orient, most probably the Philippine Islands. They have a stately carriage, short beaks, broad short heads, a fierce appearance, and a well spread tail. They are very hardy and their white meat is greatly appreciated by food aficionados.

Cubalayas have a pea comb that starts at the base of the beak and has three irregularly undulating lines that are almost serrationless. The lines join at the base, are shorter at the front and higher at the back. The comb is firm and upright on the head. The comb should not extend past the line of the eye. The wattles and ear lobes are very small and smooth in texture.

The back is broad its entire length, sloping downward from the base of the neck to the tip of the tail. The tail of the male is long, broad and well spread and carried below the horizontal. The breast is broad, full and prominent.

The males have multiple spurs. The spurs are short and dome-like, not pointed. There are three varieties of Cubalayas - Black Breasted Red, White and Black.

Phoenix

Although the Phoenix is of western origin, it was developed from imports of Japanese long-tailed breeds. The major characteristics of the Phoenix are multiple feathering and length of feathering in all parts of the tail, sickles and saddle. The multiple feathering produces, in both males and females, more feathers in each part of the tail than is seen in other breeds.

The Phoenix has a single comb that is fine in texture and moderate size. It sits straight and upright. It has five distinct points with medium depth of serration. The blade is of moderate extension. The blade is moderately clear of the neck. The wattles are medium in length, smooth, well rounded, and free from folds and wrinkles. The ear lobes are oval, neat, moderate in size, of firm texture, and smooth.

The back is long, straight, broad and slightly rounded at the shoulders. It slopes moderately downward at the end of the back and then sweeps upward to the tail. The length, substance, and abundance of plumage create a well-filled appearance. The breast is broad, full and carried well forward.

There are two varieties of Phoenix - Silver and Golden.

Yokohomas

The Yokohomas were developed in Japan and are characterized by its pheasant-like body. The males have profuse, lengthy saddle feathers and long tail furnishings include sickle feathers and side hangers or tail coverts. They have an alert, game-like appearance.

Yokohomas have a walnut comb which is moderately small and set well forward. The wattles are very small or missing entirely. The throat is naked. The ear lobes are very small but bright red. The back is long, mediumly broad at the shoulder, and tapering slightly and sloping gently to the tail. For males, the saddle feathers are full flowing and often drag on the ground. The breast is slightly curved of medium depth.

There are two varieties of Yokohomas - White and Red Shoulder.

Aseels

The Aseel is a very old breed coming from India where they are praised for their gameness. They are very strong with well developed muscles and a short, sprightly, upright carriage. Their feathers are short, hard and held tight to their body outline. Aseels appear small, but their compact bodies are set upon short, widely spaced legs. Thus causes them to be deceptively heavier than they first appear. The males have a distinctive chopped-off crow and both males and females have an aggressive disposition and are generally regarded as troublemakers when maintained in close confinement. Aseels are very vigorous and tenacious survivors.

Aseels have red ear lobes and the hens lay a white shelled egg. While Aseels have a meaty carcass, they grow rather slowly.

Aseels have a small pea comb set firmly on the head and located well forward. The wattles are missing and replaced by a naked dewlap. The ear lobes are small. The head is short and broad with the brow projecting over the eyes giving the chicken a cruel expression. They have a prominent jaw and face bones.

The back is broad, flat, straight, and tapering toward the back. The breast is broad, full, muscular, and may be bare of feathers at the keel line.

There are five varieties of Aseels - Black Breasted Red, Dark, Spangled, White and Wheaten (females only).

Shamos

Shamos are very tall chickens with a muscular body. They also have very short, hard, closely held feathers. The plumage is scarcely sufficient to cover the body, often resulting in considerable exposed skin. They have a glaring expression much like a bird of prey. The Shamo has a broad, meaty body carried almost vertically on strong, muscular legs.

The Shamo is recognized in Japanese law where they are protected from extinction. They are recognized as having desirable meat characteristics.

Shamos have a pea comb. The wattles are very small or missing entirely. The exposed skin of the throat area often develops a dewlap. The ear lobes are medium small and elongated. The head is very broad, medium length, and the skull projects over deep-set eyes to give a cruel expression.

The back is broad, flat and moderately long. It is widest at the shoulders and tapers to the back. The breast is broad and the mid-line is often exposed and curved so as to form a continuous line with the neck and thighs.

There are four varieties of Shamos - Black, Black Breasted Red, Dark, and Wheaten (females only).

Miscellaneous

Sultans

Sultans are a very old, ornamental breed that came to England from Istanbul, Turkey. They originated in SE Europe, but were bred in Turkey under the name 'Sultan's fowl' since the breed was in favor with the Turkish rulers. The most distinguishing characteristics are the full crest, muff and beard, combined with vulture hocks and profuse feathering on the shanks and toes. In addition, the chickens have five toes on each foot.

Sultans are bred primarily for exhibition and are not considered a production breed, although the hens are good layers of medium-sized eggs. The ear lobes are red and the hens lay a white shelled egg. The skin is white.

Sultans have a very small, V-shaped comb. The wattles are small and round. The ear lobes are small and round, but are concealed by the crest and muffs. The crest of feathers on the head is large, globular, and compact. The beard is very full, merging with the muffs.

The back is rather long and straight. The breast is deep and prominent. The lower thighs are very short and well-feathered with long, full vulture hocks. The shanks are short and heavily feathered down the outer sides. There are five toes on each foot. The fifth toes are distinct from the others. The middle and outer toes are well feathered.

There is only one variety of Sultans - White

Naked Necks

The Naked Necks are believed to have originated in Eastern Hungary, but they reached their highest state of perfection in Germany. The areas of bare skin make plucking much more easily and quickly done. Naked Necks have less than half the feathers possessed by other chickens of the same size. They dress very smoothly with no feather follicles or sockets on the bare areas.

Naked Necks have red ear lobes and the hens lay a brown shelled egg. The hens are good layers, and despite the bare skin, stand cold weather well. Genetically, the Naked Neck is a dominant characteristic based on in crosses with other breeds.

Naked Necks have a single comb of medium size. It is set firmly on the head, being thick at the base, straight and upright. The comb has five evenly serrated points. The points in the front and rear are shorter than those at the middle. The blade follows slightly the contour of the skull. The wattles are medium in size, uniform, and free from folds and wrinkles. The ear lobes are oblong, well-defined, and smooth,

The back is rather long, moderately broad, and carried horizontally. The breast is deep, full, and well-rounded. The crop area does not have any feathers.

There are four varieties of Naked Necks - Red, White, Buff, and Black.

Araucanas

The Araucana is a chicken of South American origin. They have the distinction of laying a turquoise or blue tinted egg. They are rumpless and have tufts of feathers protruding from each side of the face. The characteristic of blue egg color is dominant and will occur in offspring when this breed is crossed with another breed. As a result, cross-breeds that lay blue or tinted eggs are often mistaken for Araucanas.

The Araucana is bred primarily for its novel characteristic of blue eggs, but the breed is still considered a dual purpose. It carries a plump, well-flesh carcass. The hens are good layers of medium-sized eggs.

Araucanas have a rather small pea comb that is set evenly on the head. The wattles are very small or absent. The ear lobes are small and smooth in texture. The ear tufts are good length, matching in size, extending from the ears in a well-defined curling ringlet.

The back is medium in length, broad at the shoulders, and have a posterior slope. The tail is entirely absent in that there is no uropygium. The breast is full, round and deep.

There are five varieties of Araucanas - Black, Black Breasted Red, Golden Duckwing, Silver Duckwing, and White

Ameraucanas

The Ameraucana breed was developed in the 1970s in the United States from the Araucana breed. The breeders wanted a chicken that was practical for the home food production flocks that had the unique feature of pastel colored egg shells together with relatively small head furnishings and a plump, well-feathered body. As a result, the Ameraucana is a general purpose breed for the production of meat and eggs. The egg shell is blue in color.

Ameraucanas have a relatively small pea comb that is centered rather than on the front or rear of the head. The wattles are very small or absent. The ear lobes are red, but very small and oval. The chickens have muffs and a beard that are full, well-rounded, medium length, and form three separate lobes.

The back is of medium length, broad, and carried slightly elevated at the shoulder. The breast is prominent and well-rounded.

There are eight varieties of Ameraucanas - Black, Blue, Blue Wheaten, Brown Red, Buff, Silver, Wheaten, and White.

BREEDS OF CHICKENS

ACTIVITY 1. Breed classification terminology

It would be preferred to use a copy of the Standard of Perfection from the American Poultry Association. If not, there is a PowerPoint presentation that discusses the terminology used in classifying the different breeds.

Clovers / Intermediates / Seniors

Materials needed: Copies of the 'Breed terminology' worksheet.

Activity: Divide the club members into smaller groups including diverse ages in each group so that the older 4-Hers can help the younger ones. Have each group complete the worksheet.

REFLECTION

To complete the experiential learning model, discuss these or similar questions with the youth:

Share:

- What did we do in this activity?
- What was the goal of this activity?
- What did you learn from this activity?

Process:

- What part of the activity taught you the most?

Generalize:

- What was the most interesting thing you learned from the activity?
- What surprised you the most?

Apply:

Use the 4-Hers knowledge of the classification system for the many different breeds and varieties of chickens to learn the different Standard breeds in the different class.

ACTIVITY 2. Identification of breeds in the American class

There is a narrated PowerPoint presentation that discusses the different breeds in the American class.

Clover

Materials needed: Word search puzzle on the American Breeds

Intermediates

Materials needed: Crossword puzzle on the American Breeds with definitions.

Seniors

Materials needed: Crossword puzzle on the American breeds with the outlines of the chickens. Use for either the roosters or the hens.

REFLECTION

To complete the experiential learning model, discuss these or similar questions with the youth:

Share:

- What did we do in this activity?
- What was the goal of this activity?
- What did you learn from this activity?

Process:

- How would you generalize the 13 breeds in the American class in terms of skin color, ear lobe color and eggshell color, meat quality?

Generalize:

- What was the most interesting thing you learned from the activity?
- What surprised you the most?

ACTIVITY 3. Identification of breeds in the Asiatic class

There is a narrated PowerPoint presentation that discusses the different breeds in the Asiatic class.

Clover

Materials needed: Word search puzzle on the Asiatic Breeds

Intermediates

Materials needed: Crossword puzzle on the Asiatic Breeds with definitions

Seniors

Materials needed: Crossword puzzle on the Asiatic breeds with the outlines of the chickens. Use for either the roosters or the hens.

REFLECTION

To complete the experiential learning model, discuss these or similar questions with the youth:

Share:

- What did we do in this activity?
- What was the goal of this activity?
- What did you learn from this activity?

Process:

- How would you generalize the 3 breeds in the Asiatic class in terms of skin color, ear lobe color and eggshell color, meat quality?

Generalize:

- What was the most interesting thing you learned from the activity?
- What surprised you the most?

ACTIVITY 4. Identification of breeds in the English class

There is a narrated PowerPoint presentation that discusses the different breeds in the English class.

Clover

Materials needed: Word search puzzle on the English Breeds

Intermediates

Materials needed: Crossword puzzle on the English Breeds with definitions

Seniors

Materials needed: Crossword puzzle on the English breeds with the outlines of the chickens. Use for either the roosters or the hens.

REFLECTION

To complete the experiential learning model, discuss these or similar questions with the youth:

Share:

- What did we do in this activity?
- What was the goal of this activity?
- What did you learn from this activity?

Process:

- How would you generalize the 6 breeds in the English class in terms of skin color, ear lobe color and eggshell color, meat quality?

Generalize:

- What was the most interesting thing you learned from the activity?
- What surprised you the most?

ACTIVITY 5. Identification of breeds in the Mediterranean class

There is a narrated PowerPoint presentation that discusses the different breeds in the Mediterranean class.

Clover

Materials needed: Word search puzzle on the Mediterranean Breeds

Intermediates

Materials needed: Crossword puzzle on the Mediterranean Breeds with definitions

Seniors

Materials needed: Crossword puzzle on the Mediterranean breeds with the outlines of the chickens. Use for either the roosters or the hens.

REFLECTION

To complete the experiential learning model, discuss these or similar questions with the youth:

Share:

- What did we do in this activity?
- What was the goal of this activity?
- What did you learn from this activity?

Process:

- How would you generalize the 7 breeds in the Mediterranean class in terms of skin color, ear lobe color and eggshell color, meat quality?

Generalize:

- What was the most interesting thing you learned from the activity?
- What surprised you the most?

ACTIVITY 6. Identification of breeds in the Continental class

There is a narrated PowerPoint presentation that discusses the different breeds in the Continental class.

Clover

Materials needed: Word search puzzle on the Continental Breeds

Intermediates

Materials needed: Crossword puzzle on the Continental Breeds with definitions

Seniors

Materials needed: Crossword puzzle on the Continental breeds with the outlines of the chickens. Use for either the roosters or the hens.

REFLECTION

To complete the experiential learning model, discuss these or similar questions with the youth:

Share:

- What did we do in this activity?
- What was the goal of this activity?
- What did you learn from this activity?

Process:

- How would you generalize the 10 breeds in the Continental class in terms of skin color, ear lobe color and eggshell color, meat quality?

Generalize:

- What was the most interesting thing you learned from the activity?
- What surprised you the most?

ACTIVITY 7. Identification of All Other Standard Breeds

There is a narrated PowerPoint presentation that discusses the different breeds in the All Other Standard Breeds division

Clover

Materials needed: Word search puzzle on the All other standard breeds

Intermediates

Materials needed: Crossword puzzle on All other standard breeds with definitions

Seniors

Materials needed: Crossword puzzle on the All other standard breeds with the outlines of the chickens. Use for either the roosters or the hens.

REFLECTION

To complete the experiential learning model, discuss these or similar questions with the youth:

Share:

- What did we do in this activity?
- What was the goal of this activity?

- What did you learn from this activity?

Process:

- How would you generalize the 13 breeds classified in the All of Standard Breeds division in terms of skin color, ear lobe color and eggshell color, meat quality?

Generalize:

- What was the most interesting thing you learned from the activity?
- What surprised you the most?

ACTIVITY 8. Chickens and Geography

The different breeds of chickens originated from many different parts of the world. It is a great opportunity to include geography into the lesson.

Intermediates

Materials needed: Crossword puzzle on Chickens and Geography

Seniors

Materials needed: A map of the United States showing the states, together with the breed labels for Buckeye, Delaware, Jersey Giant, Lamona, New Hampshire, Plymouth Rock, Rhode Island Red, and Wyandotte. Have the 4-Hers work as a group to place each breed name on the correct state where they are said to have been developed.

- Buckeye = Ohio
- Delaware = Delaware
- Jersey Giant = New Jersey
- Lamona = Maryland
- New Hampshire = New Hampshire
- Plymouth Rock = Massachusetts
- Rhode Island Red = Rhode Island
- Wyandotte = New York

Materials needed: A map of the world, together with the breed labels for Ancona, Andalusia, Araucana, Aseel, Australorp, Barnevelder, Brahma, Campine, Catalana, Chantecler, Cochin, Cornish, Crevecoeur, Cubalaya, Dorking, Faverolle, Hamburg, Houdan, La Fleche, Lakenvelder, Langshan, Leghorn, Malay, Minorca, Modern Game, Naked Neck, Old English Game, Orpington, Polish, Redcap, Shamo, Sicilian Buttercup, Sultan, Sumatra, Sussex, Welsummer, White Faced Black Spanish, and Yokohama. Have the 4-Hers work as a group to place each breed name with the correct country of origin.

- Ancona - from Port City of Ancona, ITALY
- Andalusia - from Province of Andalusia, SPAIN
- Araucana - from SOUTH AMERICA
- Aseel - from INDIA
- Australorp - from AUSTRALIA
- Barnevelder - from the district of Barnevelder in HOLLAND (or the Netherlands)
- Brahma - from CHINA

- Campine - from BELGIUM
- Catalana - from Catalana, SPAIN
- Chantecler - from CANADA
- Cochin - from CHINA
- Cornish - from Cornwall, ENGLAND
- Crevecoeur - from the town of Crevecoeur in the Normandy area of FRANCE
- Cubalaya - from CUBA
- Dorking - from ENGLAND
- Faverolle - from the village of Faverolle in FRANCE
- Hamburg - despite the German name, they are from HOLLAND (or the Netherlands)
- Houdan - from FRANCE
- La Fleche - from the town of La Fleche in the Valley of La Sarthe in FRANCE
- Lakenvelder - from GERMANY
- Langshan - from CHINA
- Leghorn - from ITALY
- Malay - from the continent of ASIA
- Minorca - from SPAIN
- Modern Game - from ENGLAND
- Naked Neck - from HUNGARY
- Old English Game - from ENGLAND
- Orpington - from the town of Orpington in Kent County in ENGLAND
- Polish - despite the name, they are from HOLLAND (or the Netherlands)
- Redcap - from Derbyshire, ENGLAND
- Shamo - from JAPAN
- Sicilian Buttercup- from the island of Sicily, ITALY
- Sultan - from TURKEY
- Sumatra - from the island country of SUMATRA
- Sussex - from Sussex, County in ENGLAND
- Welsummer - from the village of Welsum in HOLLAND
- White Faced Black Spanish - from SPAIN
- Yokohama - from JAPAN

REFLECTION

To complete the experiential learning model, discuss these or similar questions with the youth:

Share:

- What did we do in this activity?
- What was the goal of this activity?
- What did you learn from this activity?

Process:

- Were you surprised by the worldwide interest in breeding chickens?

Generalize:

- What was the most interesting thing you learned from the activity?
- What surprised you the most?

Apply:

We are going to use what we learned about the different chicken breeds to pick breeds for the pullet project. In this project, the 4-Hers will raise a flock of pullet chicks which will later be used in the egg production project.

MODULE 4

THE PULLET PROJECT

The term PULLET refers to immature female chicks. The pullet project will involve raising a small flock of pullet chicks. The goal is to have a small egg production flock. The club as a whole should have the opportunity to decide what breeds of chickens will be available for the participants to choose from.

ACTIVITY 1: Evaluation of potential egg laying breeds

Materials required: Note taking sheet for evaluating different chicken breeds available for purchase from the planned source for the day-old chicks to be used in the pullet project. Access to a computer with Internet connection.

Activity. The 4-Hers should work together as a group to research the potential of different types of pullet chicks available online so that they can select one or more for the pullet project.

They should start by deciding what the most important criteria they are interested in. Potential criteria could include:

- Availability is of primary importance since if the hatchery or feed store doesn't sell it you can't buy it
- Cost of the day-old chicks
- Temperament of the hens and their likelihood to interact with other hens in the flock
- How will the chickens handle the planned housing situation? Will you be foraging the chickens? Will be important for the chickens to handle confinement well?
- How weather-hardy are the chickens? Will they handle winter well?
- Easy of sexing newly hatched chicks and the likelihood of sexing errors that could result in getting a cockerel or two with the pullet chicks
- Body weight of the hens, as this will effect feed efficiency: The larger the hen the more feed she will require for maintenance and thus egg production
- Age at first egg: This will determine how soon your pullets will start laying eggs, and thus the amount of feed need to raise a ready-to-lay pullet
- Expected level of egg production
- Egg color: Some people have a preference for a white or brown shelled egg, or some perhaps a flock producing eggs of many different colors

There are a number of different breeds that the local hatchery or feed store may carry that are not American Poultry Association (APA) recognized breeds or varieties. They should be considered as well when trying to chose breeds for the pullet project. A popular breed for some backyard flocks is the Maran because they hens lay a dark brown egg. The hens do not lay as well as other breeds that have a similar shell color, such as the Welsummer.

Some hatcheries also sell commercial hybrid strains of egg layers developed for small flocks. This can include Lohmann, Isa Brown, or Hyline strains.

There are also a number of sex-link crosses offered by some hatcheries, including Black sex-links, Red sex-links (also called Red Star), Cinnamon queens, Golden comets, California whites, Sapphire olive eggs, Starlight green egger, etc.

Sex-link crosses

There are certain breeds that, when crossed, produce offspring that can be sexed on the basis of the color of the down. These are referred to as sex-linked crosses. These crosses work because certain plumage characteristics have their genes on one of the sex chromosomes, the Z chromosome. Such crosses significantly reduce the likelihood of sexing errors so all the chicks ordered should be pullets. The likelihood of a cockerel in the group would be lower than for regular crosses which are vent sexed. Vent sexing has about a 95% accuracy, even with the most experienced sexers.

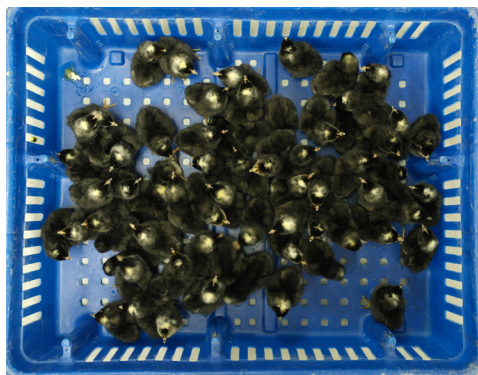
For birds, the male sex chromosomes are ZZ while those of the female are ZW. It is the female, therefore, that determines the gender of the offspring. This is different than for mammals, like humans. For humans, and other mammals, men are XY and females are XX. For mammals, therefore, it is the males that determine the sex of the offspring.

The two main sex-linked plumage traits in creating sex-linked crosses are barring versus non-barring (B, b) and silver versus gold (S, s).

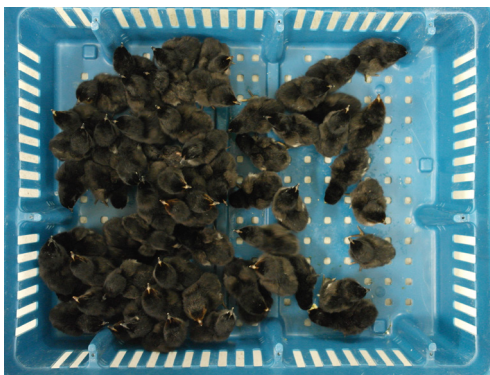
BLACK SEX-LINK

The Black-sex link is created by crossing a barred hen with a non-barred rooster. Typical breeding is a Barred Plymouth Rock hen and a Rhode Island Red or New Hampshire Rooster. In this cross, the female offspring do not receive the barring gene so will be unbarred like their father. The male offspring will receive the barring chicken from their mother so will be barred. On day of hatch, all the chicks have black down feathers, but the males have a yellow dot on the top of the end. This dot is not present on the females, making it easy to tell the genders apart. This cross involves two dual purpose breeds, and is a dual purpose chicken as well.

	Contributed genes	HEN (Barred female)	
		Z^B Barred	W
ROOSTER (Non-barred Male)	Z^b non-barred	$Z^B Z^b$ Barred male	$Z^b W$ Non-barred female
	Z^b non-barred	$Z^B Z^b$ Barred male	$Z^b W$ Non-barred female



Day old black sex-link male chicks



Day old black sex-link female chicks

RED SEX-LINKS

There are different kinds of Red sex-links depending on the hatchery. One hatchery uses Rhode Island Red males and White Leghorn hens. Another uses Rhode Island Red males and Delaware hens.

Red sex-links are created by crossing Rhode Island Reds males with White Leghorn females. Males hatch out yellow while females hatch with a buff or brown color.

The Rhode Island Red is a hardy breed with good egg production qualities. The White Leghorn has high livability and is a prolific egg layer. Both of these breeds are not heavy breeds. The Rhode Island Red is about 5 pounds at maturity and the White Leghorn is about 4-4.5 lbs. at maturity, making the Red Sex-Link a good choice for a small or backyard flock.

REFLECTION

To complete the experiential learning model, discuss these or similar questions with the youth:

Share:

- What did we do in this activity?
- What was the goal of this activity?
- What did you learn from this activity?

Process:

- What attributes did you feel were most important in selecting a chicken breed for your pullet project?

Generalize:

- What was the most interesting thing you learned from the activity?
- What surprised you the most?

Apply:

- Which breeds should be made available to club members for use with this year's pullet project?

The following materials are available to help with the organization and running of the 4-H pullet project:

1. A flyer on the project, in MS word form that can be edited as needed to include breeds and costs
2. 4-H Pullet Project Production Manual
3. Four PowerPoint presentations regarding the project (Introduction to the project, Brooding, Biosecurity, Selecting chickens for show)
4. Project record book (As pdf that can be printed out and hand-filled; as a fillable pdf and information typed in; and as a MS word document that can be edited to add the required information)
5. National 4-H Poultry Showmanship manual

MODULE 5

POULTRY SHOW

At the end of the project timeline, the participants should select two pullets for show. The pullets should be judged on uniformity as well as production potential. The contests can also serve as the poultry showmanship contest as well.

Pullet chickens are considered full-grown adult female chickens is size and weight, but they are still developing so that they are not in full egg production. In terms of the age range, pullet chickens are identified between 15-22 weeks old. This age range is quite wide but is a reflection of the effect of breed. Breeds like Rhode Island Red start laying somewhere between 18-20 weeks of age while the Orpington can start laying at 28 weeks. Breeds that lay early are generally considered as production breeds.

While the breeds is an important factor dictating when pullets will start laying, there are other factors that may account for the wide range of ages at first egg and how many eggs they lay in production cycle. Chickens are also affected by the length of the day (number of hours of light per day), their nutritional status, and the level of stress that they might be in.

The pullets entered in the show should be clean, not have any broken feathers, and have clean legs and feet. The comb should be free of scars and blemishes. The chickens should not be molting (losing feathers). Make sure that there are no defects such as crooked keel bone (the breastbone), breast blisters, bumblefoot, or deformed toes. Uniformity of the pair is also a criterion that is judged, so select two pullets with similar characteristics.

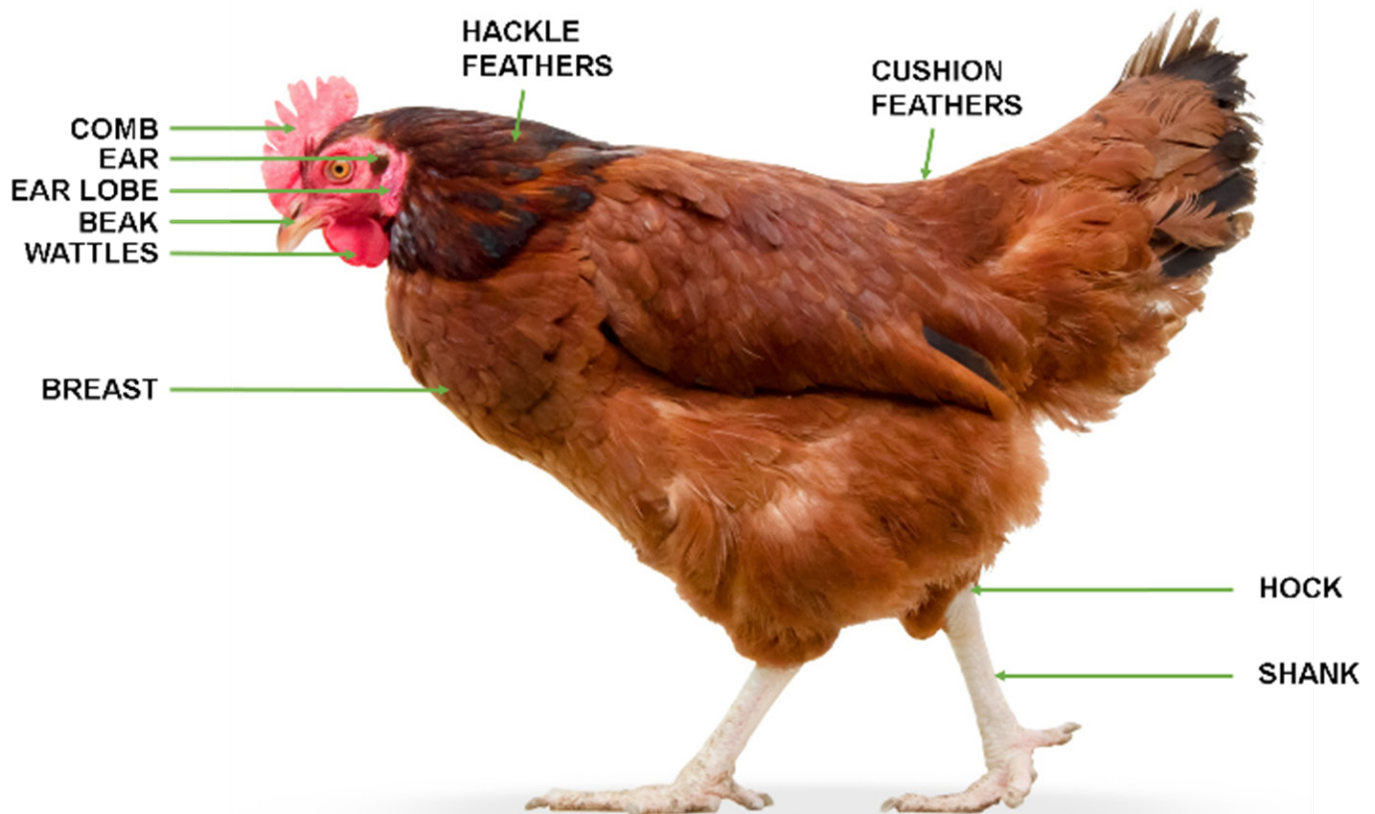
The chickens will be judged on their production potential. That is, they will be evaluated based on criteria used to estimate their future egg production. ***The American Standard of Perfection from the American Poultry Association is never used to evaluate production pullets.***

The first thing is to identify which chickens are already in production. The same hormones that cause a pullet to come into production cause other changes in her body as well. The comb and wattles increase in size and soften. The abdomen becomes enlarged, soft, and pliable. The distance between the two pubic bones and between the pubic bones and the tip of the keel increases. This is referred to as abdominal capacity. The vent becomes moist and wide.

A pullet that has not yet started egg production will have small and hard comb and wattles. The vent will be dry. The distance between the pubic bones and between the pubic bones and the tip of the keel will be small. The abdomen will be firm, and in some cases, hard. See Factsheet 4AJ-07P0, 'Kentucky 4-H Poultry: Evaluating egg-laying hens' for how to evaluate egg laying hens for past and current level of production.

Body capacity is another factor which is evaluated. The body of the chicken is filled with organs. If a part of the body is narrow the organs in that area cannot function at optimum levels. You want pullets that have some distance between their legs without appearing bow-legged. You want the pullets with full, well-rounded breasts and with legs set well back. The body of the pullet should not be quite rectangular. Usually, the rear is deeper than the front. This allows for more room for the egg producing organs.

The body should be broad, deep, and well-developed. This is important for adequate intestinal development, which is needed for quick digestion and absorption of food necessary for good egg production. Body depth can be determined by placing your finger tips on the back bone and your thumb across the middle of the keel (breastbone).



The head should be broad and somewhat flat on top rather than round, wide between the eyes, and moderately long. The head should not be narrow, shallow and over-refined. This is referred to as a “crow head”. The face should be clean cut, smooth, and wrinkle-free. The skin should be fine-grained and soft in texture, the comb substantial in size and rich in color.

Production pullets should show healthy plumage. The feathers that production pullets have should be clean and well grown out. Broken, stained, and dirty feathers demonstrate lack of proper care and overcrowding. Bathing the pullets before the fair and oiling the legs, comb and face will show the pullets’ best qualities.

A high quality pullet is alert and has quick movements. In contrast, a non-productive pullet has a dull look in the eyes and sluggish in its movements. Pullets that are cared for properly when young will be vigorous through out life. Unthrifty young birds never catch up.

POULTRY SHOWS - BIOSECURITY

There are many puzzle pieces to a poultry project - and the culminating piece for a project is typically the poultry show. Daily care and nutrition of the laying hens, collection and consumption of the eggs produced, showmanship, and biosecurity are all key parts of the project.

It is important that the 4-Hers are able to identify any sick chickens, and not bring them to the poultry show. Sick chickens would be those that are acting droopy or unhappy, have a change in comb color, or have watery diarrhea. Such chickens should not be brought to the show where they could mingle with chickens from other members. In addition, chickens should be checked for any external parasites and washed before being brought to the poultry show.

With regards to poultry diseases, national and state agencies have identified biosecurity as a high priority. The USDA and Kentucky Departments of Agriculture have long term goals of safeguarding the poultry industry in the state from accidental outbreaks of disease. Disease control and surveillance and food security are high priorities in ensuring that people and poultry are protected.

Chickens that are exhibited at public venues can also illustrate some of the practices and concerns associated with the risk of disease outbreaks. Because disease outbreaks could have profound impacts on the agricultural economy of the state, it is important that issues related to biosecurity within 4-H programs are addressed.

In addition, the outbreak of highly pathogenic avian influenza a few years ago had devastating effect's on the country's poultry industry - making now the time to ensure that everyone with a poultry project is doing everything possible to keep their birds safe from the spread of disease.

4-H members, volunteers and staff should have an understanding of biosecurity practices and implementing good biosecurity protocols during poultry shows. This includes the importance of:

- Clean bedding and cages
- Having separate clothes and shoes while working with poultry
- Hand washing
- Quarantining new birds when they return to the farm
- Proper cleaning of equipment used during the show
- Proper cleaning of equipment before they return to the farm

By paying attention to their management, both on their own farms and during exhibition, 4-H poultry exhibitors can do their part to help safeguard the poultry production industry. Poultry barns at exhibits should have numerous hand and foot washing stations as well as instructions for proper washing of hands. Visitors to the barn should properly wash their hands upon entering the barn and then again upon exiting the barn in order to reduce the risk of spreading diseases from barn to barn.

Additionally, poultry waste is a risk. All poultry waste should be cleaned as the show occurs. This is as simple as having a show staff person with the responsibility of cleaning poultry waste as the show goes on. A simple wheelbarrow and manure scoop is all that would be needed. The scoop and wheelbarrow should be properly cleaned after each species show and manure should be dumped in approved temporary animal waste areas for permanent disposal.

The first principle of everyday biosecurity is having a separate pair of clothes and shoes to wear when you are interacting with your animals. You may wonder why this is important. The answer is simple: pathogens can be easily carried on clothing and shoes. Think of all of the places that you may walk in

a single pair of shoes in one day—it's probably a lot of different places! If you are wearing those same shoes into your barn, you can potentially be transporting disease into your animal facilities. Additionally, if you wear your barn shoes to other places, you could potentially be spreading a disease from your farm to new locations. Clothing acts the same way, as another carrier for disease.

By having a pair of shoes and clothes dedicated to using in the barn when working with your flock, you are greatly reducing the risk of cross-contamination in your area. Remember that clothing and shoes should be washed frequently to help decrease the transmission of disease across your farm.

In addition to wearing separate clothes and shoes in animal areas, another everyday biosecurity practice is proper and frequent hand washing. Our hands have the ability to touch a million different surfaces in a variety of locations each day. Washing our hands properly with soap and water can help reduce the spread of pathogens from various locations to others, animals and ourselves.

Always remember to wash your hands before and immediately after handling your birds. If you have sick birds, remember to care for healthy animals first, wash your hands, and then care for any sick birds in the flock.

Another important biosecurity practice is to quarantine poultry that are new to your farm or returning from an exhibition or show for a minimum of 28 days. These birds have been exposed to other poultry at a different location, therefore, may be carrying disease and viruses that your home flock does not have. This 28-day quarantine time will allow time for your birds to show symptoms of any virus or disease they may have contracted.

Although this may be challenging with the resources that you have available to you, think about how you can best separate animals and how disease transmission occurs. First, we know that pathogens can spread through indirect means; sneezing, coughing and via hands and clothing. Do your best to keep poultry separated enough that they are not exposed to nasal discharge from sneezing or coughing. Unfortunately, pathogens can also be spread through the air. When quarantining animals, use your best judgment within the facilities you have to minimize the risks. In addition, it is recommended to care for your home flock first, before caring for your new or traveling animals, as not to transfer pathogens on your hands or clothes.

If you have purchased or received new birds to your farm, it is valuable to learn the history of the new animals. Ask questions about the management practices and flock health of the farm you are purchasing from, and know what vaccinations, if any, the birds on the farm have received. Although often overlooked, this is important to know as it will help evaluate any potential health issues that your new birds may develop after you get it to your farm. Remember, stress weakens the immune system of animals and a change in environment and location can potentially be stressful for your new birds. As a result, it may be more likely to show signs of sickness. If you know its history, you will be better prepared to work with your veterinarian to identify and treat any illness.

With fair season over, backyard poultry owners may feel the threat of avian influenza has weakened. To the contrary, poultry producers should remain vigilant year round, learning about the disease, and taking proper precautions to keep their flocks healthy.

POULTRY SHOWS - INTERACTING WITH THE PUBLIC



It is important that the 4-H members, leaders, volunteers and staff be prepared to positively interact with the public at poultry shows. During the summer season, many 4-Hers are preparing their animals and other projects for the fair as well as polishing their skills for the show ring. As this is time of high visibility for youth and 4-H, it is important to have strategies in place for professional behavior during interactions with the public at these events.

What does it mean to be professional? Being professional may sound like it only applies to adults who are established in their careers, but the skills of communication, respect and preparation can be valuable for youth in their fair projects as well as when they are preparing to enter the workforce.

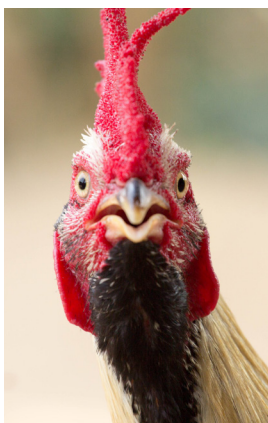
Much of the preparation for the fair often revolves around getting an animal ready for show and learning what to say to judges. However, there is also a chance to for the youth to explain their project to the public and people who have little to no knowledge about poultry but may have some curiosity. The conversation with the public usually involves explaining things in a different way than you would to a judge.

For instance, it is important for the youth (as well as leaders and volunteers) to avoid jargon (specific words that only people familiar with the topic area understand) in their descriptions and explanations and to clarify terms as they use them. Youth are also giving more of an overview of the work and engagement in their project instead of going as in-depth as they might with a judge and, at the same time, are encouraging questions from the other person in the conversation. Many people may feel intimidated to ask questions about something they don't know anything about, but if they are open to dialogue and encouraging curiosity, they can learn something about the topic area as well as about all of the care and preparation the youth put into their project.

It is helpful to remember that when members of the public are wandering around the barns of your fair, they will see you as the face of 4-H. For better or worse, you will be representing the organization with how you interact with them. Treating everyone who comes through the barns with respect can go a long way in those interactions. People don't want to feel like their presence in the barns is a nuisance or they may never come back. On the other side of that coin, if you are genuinely welcoming to visitors, you will certainly improve their immediate experience and you may even convince them to try out 4-H for themselves!

Learning how to communicate all the information they have learned over the course of their project should be part of youth's preparation for the fair. Have them practice talking about their projects to members of their family, 4-H club members, and any other groups they might be a part of (sports, church, etc.) before the event. Having them create a professional pitch or elevator speech is a great way to prepare for these short conversations with others about their project. They may also consider creating an educational poster to display in the barns during the fair as a way to help people learn even when the youth are not around.

It is often easy for youth to know what to expect in the show ring in regards to their appearance and demeanor, but remember that even outside of the show ring, they are representing your club and your county 4-H program any time people see them at the fair. They should consider what they wear, how they interact with members of the general public, how much they pay attention to their cellphones, and the words they use when they are on barn duty or hanging out with friends. Their level of professionalism can say a lot about their character!



BEHAVIOR OF ADULT LEADERS AND VOLUNTEERS

County fairs can be stressful and emotional for families. Parents can help make it a positive experience for their child by leading by example! Consider being intentional in your acts at the fair in the following ways.

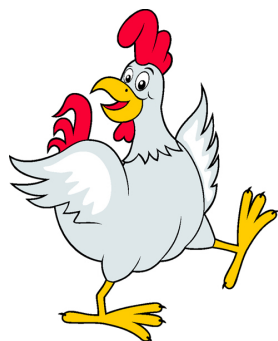
Honor the judging process

Judges only see what is in front of them in the ring. Judges are doing the best they can and we need parents to respect the process. Remember that this is a child's opportunity to show what they have learned and practiced at home. Will everything go perfectly? Probably not because animals have a mind of their own sometimes, but as soon as a child is in the ring, you are a spectator only.

As the class concludes, judges may provide oral feedback about the class. Make sure the youth take the opportunity to listen and learn from the judge. They are the person getting paid for their opinion on that day. If you don't agree with their opinion, don't disparage the judge. Instead, take the opportunity to teach the 4-Hers good conflict resolution skills and at the conclusion of the show, have the youth ask the judge why they placed a class a certain way. You still may not agree, but teaching youth that it is okay for people to have a difference of opinion is an invaluable lesson.



When the class is over, make sure to tell the 4-Her all the things they did right instead of focusing on what they did wrong. Every time they step in the show ring, it is a learning opportunity; treat it as such and help them grow and learn so they can continue to improve.



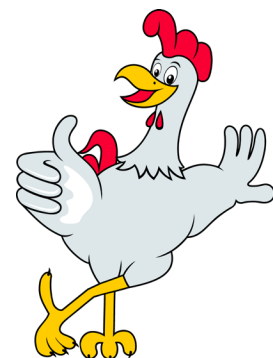
Always practice good sportsmanship in and out of the show ring

Period. End of discussion. Every family in the barn has different resources, different experiences and different priorities. Model good sportsmanship by congratulating everyone, offering a kind word and practicing compassion and grace, even when it is hard to do. Some great phrases to say are: "Good job! I can really tell you worked hard with your project and it shows!" "I know things didn't go as well as you would have hoped, but you did a great job keeping your composure! I admire that!"

We all have our own situations; you never know when a kind word makes all the difference in the world to someone else. The youth who seems to win all the time may feel like that is the only place they belong and can be successful. The youth who places at the bottom of the class every year may have no support system to gain the knowledge to progress in their project. We just never know what battles others fight; children are no different. Be kind and a good sport no matter what.

Encourage and support the program requirements

Record books, food stand shifts, and barn duty may be required in order to participate at the fair. Begrudging these tasks only sets a negative tone for things that are meant to help youth build their skill set. Instead, take the opportunity to teach youth that not everything in life is fun; sometimes we have to do the not so fun stuff in order to do the fun stuff. Encourage and support the 4-Hers in these tasks. They are learning new things and creating memories while they are doing them, and sometimes those required things can turn out to be memorable experiences.



Always model a good attitude

I guarantee someone or something will upset you or not go as you would hope during the fair. Remember that practicing patience, extending a lot of grace to others and paying attention to your own family's experience will eliminate unnecessary drama and hard feelings. Being intentional about finding the good in situations rather than the bad is a great life lesson to teach youth. Not everything is in your control, but you can always control how you respond.

A fair experience is probably the highlight of a 4-Her's summer. Make sure to enjoy it with them, make memories and have it be a positive experience.

