



**Introduction  
to the  
4-H Poultry  
Project**



# Introduction

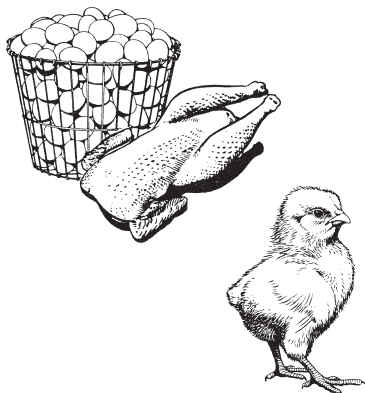
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The 4-H poultry project is for boys and girls who want to learn to raise and grow chickens. If you complete this project, you will learn **(1) to identify different varieties of poultry, (2) to feed and manage poultry, (3) to exhibit poultry and (4) to record your activities.**

The 4-H poultry project includes three kinds of project work. You may do one, two or all three.

## Poultry Projects

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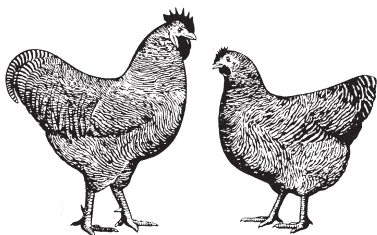


- 1. Broiler Production Project.** Club member raises 25 or more chickens (broilers) to produce meat. This short-term project lasts only seven to nine weeks. Broilers raised for this project are bought as 1-day-old chicks.
- 2. Egg Production Project.** Club member raises a flock of chickens (20 to 25 hens) for their eggs. This long-term project generally lasts six months or longer. Hens used for this project may be bought as pullets (young females) or raised from chicks. The eggs produced can be for home use or sold to a local market.
- 3. Exhibition Birds Project.** Club member raises a small flock of chickens (15 or more birds) to exhibit at parish and state poultry shows. All birds exhibited must have been raised from 1-day-old chicks. Exhibition birds must be purebred and may be standard bred or bantams. Standard bred are normal-size chickens. Bantams are miniatures. Club member may exhibit both standard and bantams.

## Breeds of Poultry

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A system of classes, breeds and varieties has been established to identify and classify chickens.



A class is a group of breeds that originated in the same country or region of the world. The name indicates the region where the breed began, such as English, Mediterranean or American.

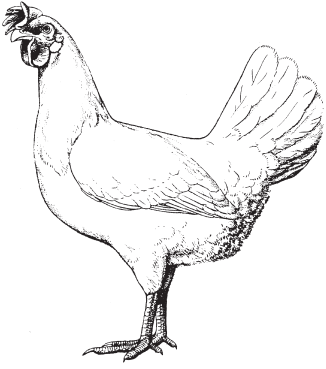
Most chickens grown by today's commercial poultry industry are from the American, English or Mediterranean classes. Breeds in the American class have yellow skin and unfeathered shanks. They adapt easily to different conditions and are used to produce both meat and eggs. Popular breeds in the American class include the Plymouth Rock, Dominique, Rhode Island Red, New Hampshire, Wyandotte, Jersey Giant and others.

Breeds in the English class excel in producing meat. Popular English breeds include the Cornish, Australorp, Orpington and Dorking.

The Mediterranean class includes breeds that produce eggs, not meat. They are small and lay white eggs. Popular breeds include the Leghorn, Minorca, Blue Andalusian and Ancona.

Breed refers to a group of fowl, each having the same physical features such as body shape, skin color, number of toes and feathered or unfeathered shanks. For example, Plymouth Rock has a long body. It has a broad, prominent breast and a deep body. Wyandotte has a round body. Its feathering makes it look like it has a short back.

A variety is a subdivision of a breed. Color patterns, comb type and a beard or muff are used to divide a breed into various varieties. Examples of the varieties of the Plymouth Rock breed are White, Barred, Buff, Columbian, Blue Partridge and Silver Penciled. In each case, the body shape is identical. Feather color is the only difference.



The main purpose of growing poultry is to produce meat and eggs. Chicks grown for meat are called broilers. Broilers are crosses of White Plymouth Rock, White Cornish and other breeds. They convert feeds into meat more efficiently than any other type of livestock. With good growing conditions, broilers can convert 1 pounds of feed into 1 pound of weight gain.

Club members beginning an egg production project should select one of the White Leghorn strains. These birds can produce eggs on a small amount of feed.

Any of the purebred breeds can be grown to exhibit. You may also want to consider raising bantams. Bantams are the miniatures of the poultry world. Most large fowl have a miniature likeness called a bantam. They have the same requirements for shape, color and physical features as do large fowl. Bantams are raised for their beauty, as pets or for companion animals. Often they can be kept in areas too small for large fowl. They are excellent birds to grow for exhibition.

## Activity 1: Understanding Breeds

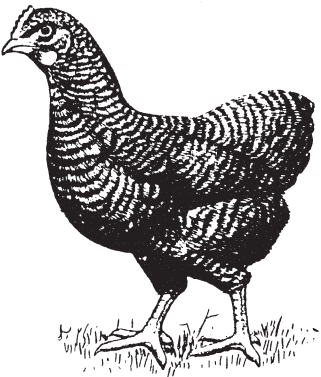
**Instructions:** Match the breed with purpose. Circle A, B or C for the purpose that matches the breed.

### Purpose

- A. Egg Production
- B. Meat Production
- C. Both Egg & Meat Production

### Breeds

- |                     |   |   |   |
|---------------------|---|---|---|
| 1. Plymouth Rock    | A | B | C |
| 2. Rhode Island Red | A | B | C |
| 3. Jersey Giant     | A | B | C |
| 4. Leghorn          | A | B | C |
| 5. Cornish          | A | B | C |
| 6. Minorca          | A | B | C |
| 7. Orpington        | A | B | C |
| 8. Blue Ancona      | A | B | C |
| 9. Astralorp        | A | B | C |
| 10. Broilers        | A | B | C |



# Selecting a Breed

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You must first determine whether you wish to produce broilers for meat or grow out pullets for egg production or exhibition. The poultry industry has developed “cross-breeds” of poultry specifically for meat production. These birds grow and feather fast and are ready for market at six weeks of age or less. All birds of this type should be used for meat. Do not retain these pullets for egg production.

Leghorn breeds are the ones kept for egg production. These birds live well, grow fast and begin laying eggs at 5 to 5 ½ months. You can choose from many excellent breeds and strains.

You also have many breeds and varieties to choose from if you raise birds for show. The American Poultry Association and the American Bantam Association issue books called the Standard of Perfection. These books include descriptions and illustrations of each recognized breed and variety. You can select a breed by studying the American Standard of Perfection. Your 4-H agent should have a copy.

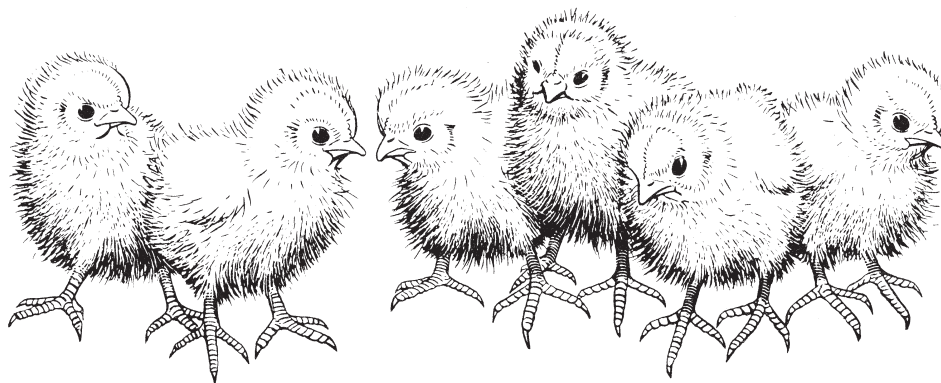
# Purchasing Chicks

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Buy chicks from a reliable hatchery. The hatchery you choose should belong to the National Poultry Improvement Plan (NPIP) or should practice a blood-testing program to purchase chicks that are pullorum and typhoid clean. These diseases can be passed from the hen through the egg to the baby chick if the hatchery does not follow a continuous testing program.

Chicks purchased for egg production or exhibition should be started in January, February, March or April. Chicks started in these months will be grown and ready for the usually higher egg prices in August, September, October and November. They also will be in peak condition for showing at the Louisiana State Fair in October.

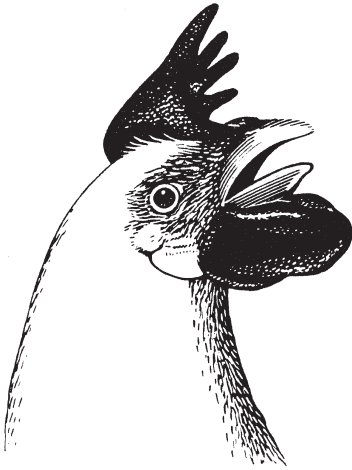
Chicks purchased for meat production can be started at any time. They should be grown, however, to be eligible for the Parish Broiler Show, State Fair or the LSU AgCenter Livestock Show. Your 4-H agent will be able to tell you these dates each year.



# Poultry Talk

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Many special terms are used in poultry production and selection. You need to become familiar with them to develop your selected poultry project. These terms will also help you talk to poultry producers to select your breed of poultry.



**Broiler** – a chicken less than eight weeks old, which will cook tender by broiling or frying.

**Flock** – three or more birds kept in one place.

**Hen** – a female chicken over 1 year of age for exhibition purposes.

**Pullet** – a female chicken under 1 year of age for exhibition purposes.

**Cockerel** – a male chicken under 1 year of age for exhibition purposes.

**Cock** – a male chicken over 1 year of age for exhibition purposes.

**Exhibition** – birds shown for their outward genetic expression (color patterns, body type and other characteristics).

**Standard bred** – large fowl that weigh more than 3 lb at maturity.

**Bantam** – small fowl (or miniature) that weigh less than 2 lb at maturity.

**Crossbred** – the offspring of parent stock of different genetic makeup.

**Fowl** – refers to chickens mostly, but also refers to most avian species.

**Nutrients** – the individual components of a feed or ingredients required by an animal.

**Protein** – any of a large group of complete organic components essential for tissue growth and repair.

**Ration** – a combination of ingredients (feed stuffs) that supply all of an animal's dietary needs.

# General Management and Care of Poultry

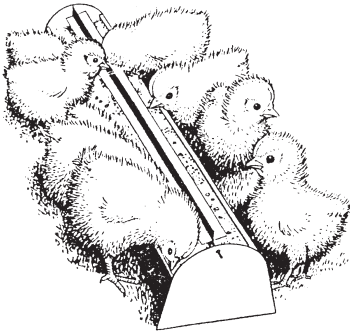
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Raising poultry successfully for meat, eggs or exhibition depends on your ability to provide the proper management and care for the birds.

## Housing and Equipment

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The basic requirements of a poultry house are that it provide enough space, protection from weather and predators (dogs, possums, foxes, etc.) and allow for movement of air. Space requirements depend on the type of chicken such as for egg production, exhibition or meat production.



Egg-production birds require about 3 square feet of floor space per bird. Larger breeds grown for exhibition need more space. Space also should be provided for separating males and females for exhibition. Bantams need 2 to 3 square feet of floor space per bird. For both standards and bantams, individual cages are required for the adult males.

Poultry house windows should be covered with 1-inch mesh poultry netting. During cold weather, the windows can be covered with plastic film if needed. Be sure to provide adequate ventilation.

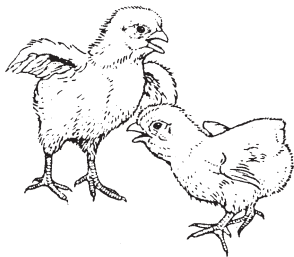
All young chicks require a heat source. Heat can best be supplied by an electric heat lamp. A 125-watt lamp is suitable for cool and warm weather and a 250-watt lamp or cold weather.

Chicks will need a trough or tube feeder. A trough 2 feet long is adequate for 12-15 chickens. One tube feeder will provide enough feeder space for 25 chickens. A 1-gallon waterer is adequate for 25 to 30 chicks. Use larger waterers for older chickens.

## Brooding Management

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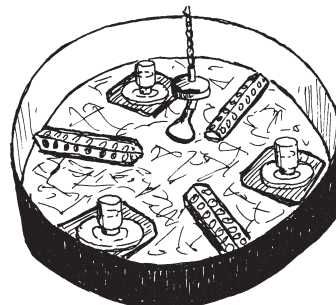
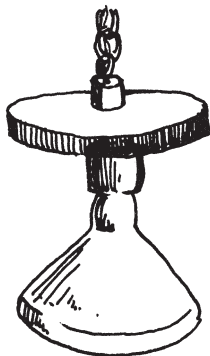
Brooding refers to the care of young chicks during the first 2 to 3 weeks of life. Good brooding practices bring out good qualities in chicks.



Use a disinfectant to sanitize the house and equipment before the chicks arrive. A solution of chlorine, iodine or quaternary ammonia can be used. When using any disinfectant, carefully follow the instructions on the label and get an adult to help you. Cleaning and disinfecting help to control diseases and parasites.

Once the brooding area has dried, place 4-6 inches of dry litter on the floor. Materials such as dry pine shavings, rice hulls or chopped straw make good litter.

The brooder lamp should be suspended about 15-18 inches above the litter and turned on the day before the chicks arrive. The lamp should be an infrared lamp, generally a 250-watt lamp bulb. Do not hang it by the electrical cord (see diagram). Secure the lamp at the proper height with a rope or chain. Heat lamps get very hot and are a fire hazard. They should not come near or touch the litter.

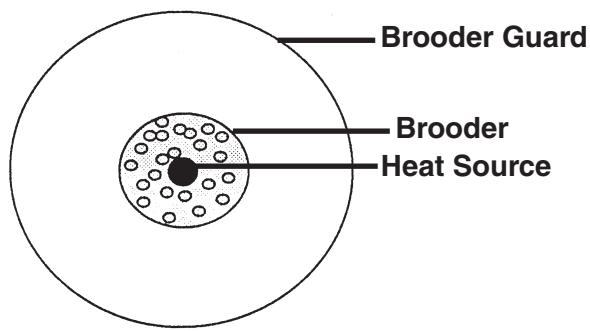


Place waterers and feeders inside the brooder area near the heat source. Do not crowd them under the light. The diagram will help you place equipment.

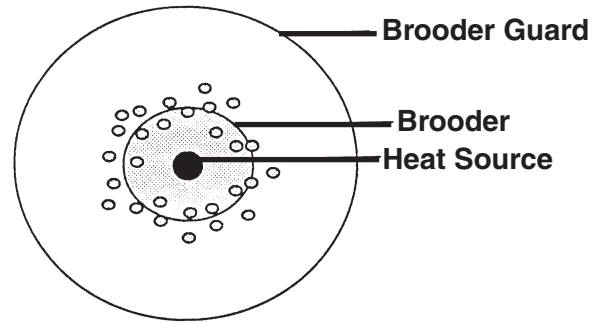
Place feed in shallow, flat pans for the first two or three days. This makes it easy for chicks to find food. After day three, replace the feed pan with a trough or hanging feeder. Hanging tube feeders are best for small flocks. Height of hanging feeders can easily be adjusted as the birds grow.



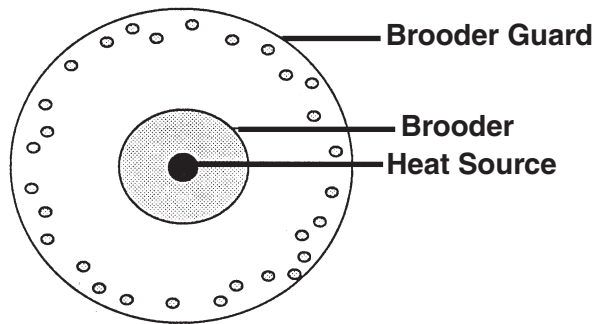
**Low Temperature**



**Average Temperature**



**Above Average Temperature**



The day before the chicks arrive, turn on the brooder lamp. Fill waterers and feeder pans. Turning the lamp on early allows litter and equipment to warm. This helps make the chicks comfortable.

When the chicks arrive, place them under the heat source. The temperature should be at 85-90 degrees for the first three or four days. The best guide to adjusting the temperature should be the chicks themselves. Their actions will tell you whether they are comfortable or not. The diagram shows you how to do this.

For the first few days, it will be necessary to watch the birds closely. Adjust the brooding temperature as necessary. The temperature can be increased by lowering the heat lamp. It can be decreased by raising the heat lamp. Supply fresh feed and water daily. Artificial light should be provided 24 hours a day. One 40-watt bulb provides adequate light for pens up to 20 feet square.

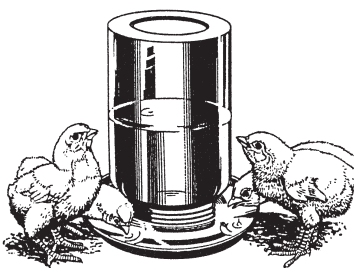
## **Growout Management**

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The growout period for broilers includes the time after brooding until market size is reached. You must provide the proper conditions, feed and care during the growing period. Keep the house at a comfortable temperature (about 72 degrees). Provide a good supply of fresh air. It is important that the litter remain dry. Remove wet spots and add fresh litter. Wet litter provides an ideal condition for parasites to grow.

Provide fresh feed daily. Do not fill troughs more than two-thirds full, or you'll waste feed. Chickens must have fresh, clean water at all times. Remove waters daily, wash them and fill with clean water.

Birds need light to locate feed and water. They also need light to grow and develop. Broilers and layers need different light schedules. Chicks grown for broilers should receive light 24 hours a day. This encourages them to eat more feed and grow rapidly. Birds grown for egg production or for exhibition should receive about 12 hours of light a

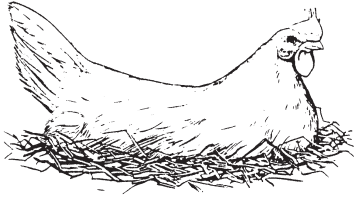


day up to 22 weeks of age. A 40-watt bulb will furnish enough light for 25-50 broilers or pullets.

## Management for Egg Production and Exhibition

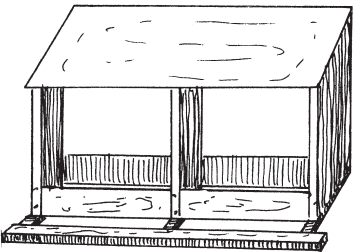
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Pullets normally start laying eggs about 22 weeks of age. The average hen lays 260 eggs in one year.



Under natural daylight conditions, chickens lay most of their eggs in the spring as days lengthen. You can use electric lights to make hens think that the days are long. This makes them lay more eggs. A useful rule for lighting laying hens is never to allow day length to decrease. Laying hens require 15 hours of light per day. One 40-watt light bulb provided enough light for up to 100 hens.

Except for controlling day length, hens require about the same management as do broilers and pullets during the growout period. Hens need a comfortable environment, dry litter, fresh feed and water and daily attention.

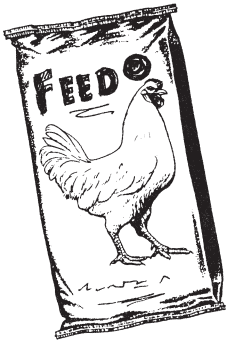


Laying hens need nests, which can easily be constructed. They should be about 1 foot square and 1 foot high. A small board at the bottom front will help retain nesting material. A perch located below the opening will provide easy access. You should provide one individual nest for every four to five layers.

## Feeding

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Chickens have simple stomachs. The nutritional requirements are different for each group of birds. It is important to feed chickens a feed designed specifically for them.



Many types of poultry feeds are available from local feed dealers. It is important to select the correct feed. For example, if you are feeding broilers, select a feed designed specifically for growing broilers. Broiler feed should contain 23-24 percent protein. It may be necessary to mix several feeds together to get a 24 percent protein level. To do this, get a feed formula and directions for mixing from your agent or extension specialist. They can calculate the correction combination of feeds for you.

A ration that contains no more than 20 percent protein is good for day-old pullets. Pullets do not need to grow as rapidly as broilers. They need less protein. Older pullets (8 to 20 weeks old) need even less protein. A diet containing 16 percent protein is satisfactory. During egg production, a 15 percent protein diet will support a good rate of lay and keep hens healthy.

## Health

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Prevention is the best way to deal with poultry disease and parasites. Prevention is better than treatment. Good sanitation and good management help prevent disease.

Follow these important sanitation and management practices:

1. Clean and disinfect house before chicks arrive.
2. Wash and clean waterer daily.
3. Keep litter dry. Remove and replace wet litter.
4. Remove and incinerate or bury all dead birds.
5. Provide adequate ventilation.
6. Isolate flock, limit visitors and keep dogs, cats, etc. away.
7. Control rats and mice.
8. If possible, keep birds of only one age on the farm.





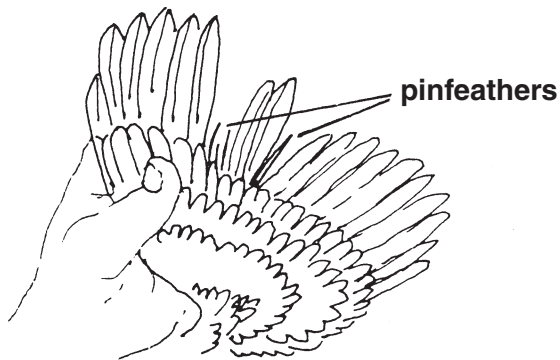
# Selection and Fitting for Show

The objective of growing broilers is to produce birds of top marker quality. The five factors that determine quality are fleshing, conformation, finish, feathering and freedom from defects.

Well-fleshed birds are more attractive. Breast, drumsticks and thighs carry most of the flesh. They should be examined thoroughly. Breast should be long and thick. The breast bones should be completely covered with flesh. Thighs and drumsticks should be thick and meaty. The degree of fleshing can be easily determined by feeling with your hand.

Conformation refers to the overall shape. The ideal shape of a broiler approaches that of a rectangle. This type of bird has good fleshing and fat covering.

Finish refers to the amount and distribution of fat. Well-finished birds have a uniform layer of fat. The birds will have a creamy or yellowish color. On poorly finished birds, the muscle and blood vessels will show through the skin. This gives the bird a reddish color. To determine finish, examine the underside of the wing. On a well-finished bird, the wing web will appear creamy or yellowish and feel waxy.



Ideally, the birds should be well-covered with mature feathers. Pin feathers (feather tips coming through the skin) are difficult to remove and lower quality. In checking for pinfeathers, examine these four areas: (1) underside of wing, (2) breast, (3) legs and thighs and (4) back.

High-quality birds are free of defects. Birds should have no broken bones, bruises, cuts or tears. Bruises are a common defect. They are usually caused by rough handling. Be careful when boxing or crating the birds for transport. Breast blisters are also a common defect. Birds with a watery breast blister or heavy calluses on the breast are not desirable.

If you are selecting birds for show, examine every bird in the flock for quality. Don't consider birds of undesirable quality. From the desirable birds, select the most uniform possible.

In selecting exhibition birds for breeding or for exhibit, you should choose the bird that closely represents the description given in the Standard of Perfection. The Standard of Perfection gives a complete and detailed description of all breeds and varieties. Defects that may lead to disqualification are discussed and illustrated.

Place birds that you have selected to show in individual cages. Provide plenty of good clean bedding, fresh feed and water. Birds may be washed two or three days before the show. Wash birds in a tub of warm water containing a mild soap (not detergent). Rinse in a tub of warm water. Place birds in a warm place so they can dry properly. A hairdryer may be used to speed drying. At the show, birds may be wiped off and the face, comb and wattles cleaned with a mixture of 50 percent water and 50 percent rubbing alcohol. For more information on poultry, refer to Standard of Perfection/American Poultry Association, "G. D. Raising Poultry Flocks," Louisiana Cooperative Extension Service publication 2250, "Small Poultry Flocks," and libraries.



# Activity 2: Management and Care of Poultry \_\_\_\_\_

1. List three predators of poultry.

\_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_ refers to the care of young chicks during the first two to three weeks of life.

3. The brooder lamp does not need to be turned on until chicks arrive.

True                  False

4. Chicks grown for broilers should receive light 24 hours a day.

True                  False

5. Pullets normally start laying eggs at \_\_\_\_\_ weeks of age.

6. The average hen lays \_\_\_\_\_ eggs in one year.

7. Broiler feed should contain a \_\_\_\_\_% protein level.

8. Name the three poultry projects offered in 4-H.

\_\_\_\_\_

\_\_\_\_\_

9. Good \_\_\_\_\_ and good \_\_\_\_\_ help prevent diseases.

10. Name the five factors that determine the quality of broilers.

\_\_\_\_\_

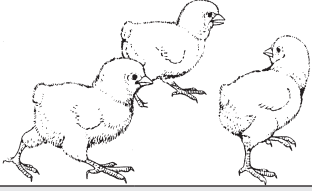
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# Poultry Project Record

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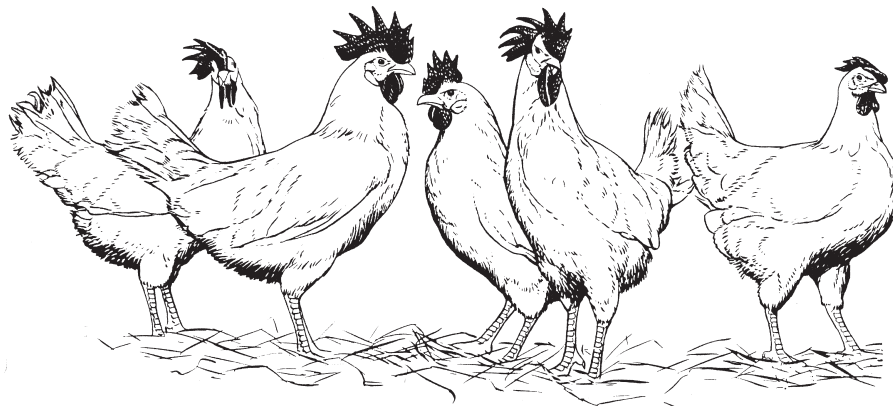
This record of your poultry project will help you keep an accurate account of income and cost. Make an entry every time you buy or sell your poultry or win a prize. Your club leader or parents will be glad to help you make the necessary entries. Prepare a record each year similar to the one below.

| <b>Expenses</b><br><i>(things you bought)</i> |             |      | <b>Income</b><br><i>(poultry sold or awards won)</i> |             |      |
|---|-------------|------|--|-------------|------|
| Date  | Description | Cost | Date   | Description | Cost |
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