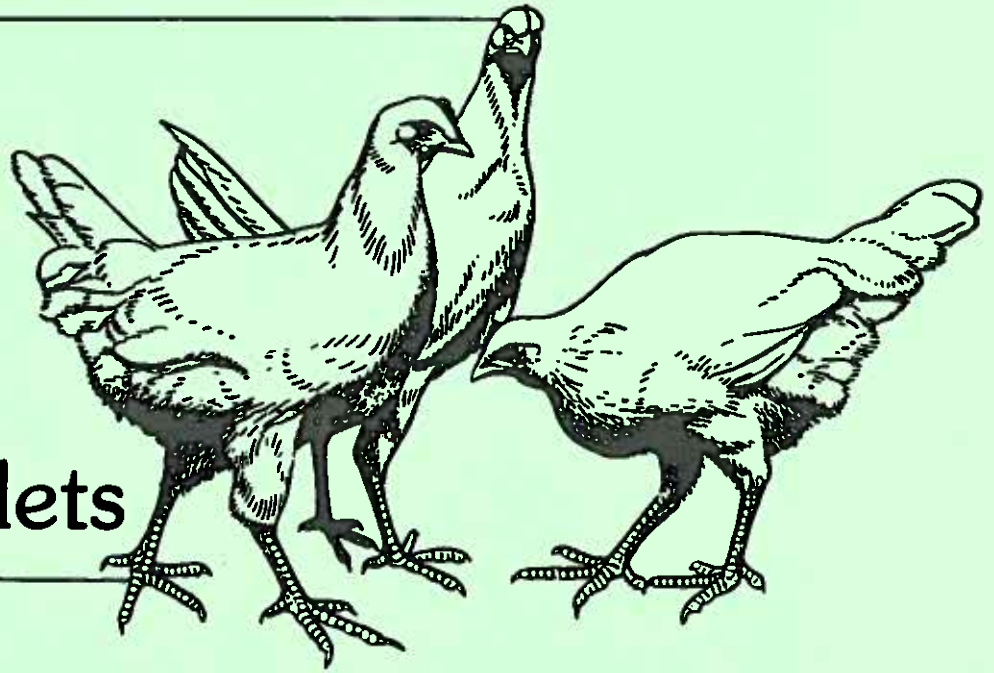




**4-H
Poultry
Production:
Raising Pullets**



Name _____ **Age** _____

Address _____ **County** _____

Advisor's Name _____ **Club Name** _____



4-H Poultry Production: Raising Pullets

4-H Circular # 151



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Keith L. Smith, Associate Vice President for Agricultural Administration; Associate Dean, College of Food, Agricultural, and Environmental Sciences; Director, Ohio State University Extension; and Gist Chair in Extension Education and Leadership.

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Member's Project Guide

Introduction

Whether you keep a few birds for home use or a large number for the marketing of eggs or if you are just interested in chickens, this 4-H poultry project is designed to help you in raising and caring for your birds. In this project, you will learn how to feed, water and care for your chickens. This project is designed to help you learn about poultry production and management through experience.

If you plan and manage wisely, your 4-H egg production project can be an interesting and profitable experience. A flock of 12 hens will produce 3-6 dozen eggs per week. This is enough to supply the needs of most families and perhaps leave a few to sell.

As you learn more about poultry, develop your house and equipment, and find customers for your eggs, you may wish to increase the size of your flock. You will need to keep a complete set of records. Good business people keep accurate records and study them.

This project book is designed for a multi-year experience. You also may want to consult other poultry references for further information and study.

Project Background

This beginning level project is recommended for members ages 9-11. Older members with no experience or limited knowledge of poultry may begin at this project

level. There is no time limit to complete this project, and it may be repeated. For further challenges in the future, members should select 4-H 152 or plan a self-determined project (4-H 365) in poultry. Contact your project advisor for details.

Be sure to check county project guidelines (if any) for additional requirements, especially if the member chooses to take the project to the county fair. Please note that a member does not have to take part in the county fair to complete this project. Participating in the county fair judging is simply a way to enhance a member's project experience.

General Project Guidelines

1. Complete the "Planning Your Project" section of this guide.
2. Members new to this project must explore Interest Areas 1-5. When repeating this project, explore any five (5) Interest Areas.
3. Within each Interest Area plan at least two (2) of the "Things to Do."
4. Take part in at least two (2) Project Learning Experiences.
5. Become involved in at least two (2) Citizenship/Leadership Activities.
6. Write a one-page report telling what was done and learned through this project.
7. Complete the record keeping section on pages 14-20 of project manual.

Planning Your Project

This planning section (steps 1-4) is designed to be reused when repeating this project.

Step 1: Interest Areas

Review your project guidelines and select the recommended number of Interest Areas to explore. Interest Areas may be repeated. As you begin to explore or re-explore an Interest Area, place the current date (mo/yr) next to it.

Date Started (mo/yr)	Interest Areas
_____	1. Breed Selection, page 4
_____	2. Buying Chicks, page 4
_____	3. Basic Housing Needs, page 5
_____	4. Feeding Chicks, page 6
_____	5. Layer Flock Management, page 7
_____	6. Marketing Eggs, page 8
_____	7. Selecting, Preparing and Showing Poultry, page 9
_____	8. Exploring Careers in Poultry, page 12
_____	9. Keeping Records, page 13

Step 2: Things to Do

Within each Interest Area selected, find the "Things to Do" section. Place a check mark (✓) next to the two (2) activities you plan to do. Guidelines also may be met by planning some of your own activities for each Interest Area selected. Activities may be added or changed at any time. Have your parent or advisor initial and date (mo/yr) what you complete.

Step 3: Learning Experiences

Take part in at least two (2) of the Learning Experiences listed below. Plan your involvement in the chart (Report of Learning Experiences) provided. Before you start your project, enter your two (2) choices in the section labeled "Plan to Take Part In." Then, once you have taken part, record what you did and when. Learning Experiences may be added or changed at any time.

Sample Learning Experiences

Demonstrations	Speech	County Project Judging
Illustrated Talk	Poultry Show	Project Meeting
Exhibit	Judging Team	Field Trip
Radio & TV	Tour	Workshop

Report of Learning Experiences

Plan to Take Part In	What You Did	Date
(example) Demonstration	Presented how to show poultry to 4-H club	4/10

Step 4: Leadership/Citizenship Activities

Check off (✓) the activities you wish to do, or plan your own in the space provided. Plan to do at least two (2). Keep track of your progress by dating (mo/yr) what you complete. Leadership/Citizenship Activities may be added or changed at any time.

Date Completed (mo/yr)	Plan to Do (✓)	
_____	<input type="checkbox"/>	Teach members of your club about poultry judging.
_____	<input type="checkbox"/>	Have someone visit your club and talk about poultry care.
_____	<input type="checkbox"/>	Encourage someone to take a poultry project.
_____	<input type="checkbox"/>	Help another member with his/her poultry project.
_____	<input type="checkbox"/>	Make arrangements for a tour of a hatchery/egg farm for your club.
_____	<input type="checkbox"/>	Plan a fun activity for your club or project group that is separate from a regular meeting.
Or, plan your own activities below:		
_____	<input type="checkbox"/>	_____
_____	<input type="checkbox"/>	_____

Project Completion and Awards

Once you have completed what you planned, write a one-page report telling what you did and learned. Be sure to complete the record keeping section on pages 14-20 of this project manual. Then have your parent or project advisor review your experiences with you. For your efforts, you can then receive a special 4-H project award. Advisors should refer to 4-H publication #956, *Advisor's Guide to Ohio's 4-H Project Planning and Incentive Program* for details.

Breed Selection

There are approximately 175 varieties of chickens grouped into 12 classes and approximately 60 breeds. Class is determined by place of origin; for example, the American class, the Asiatic class, the English class and the Mediterranean class. Breed classifies birds within a class by body shape and size such as the Leghorn breed in the Mediterranean class and the Rhode Island Red breed in the American class. Variety is a subdivision of breed and is based on feather color and kind of comb, or both. Thus the Leghorn may be white, black or one of several colors. The Rhode Island Red may have either a single or a rose comb. Before you choose a breed and variety for your project, decide whether you want to raise chickens for eggs or meat.

Egg Production

If you want to raise egg-type birds, select a breed common to commercial operations. Leghorn types are the most popular choice for white egg production. The Rhode Island Red or Plymouth Rock breeds are popular brown egg layers and are good egg producers.

Meat & Egg Production

The dual purpose birds were developed to provide the family with both eggs and meat. These birds do not produce eggs as efficiently as birds of the egg type

strains, and they cannot produce meat as efficiently as birds selected for meat production. Dual purpose birds are hardy, lay large brown shell eggs and are well suited for the backyard flock. Breeds best suited for this dual purpose are New Hampshire Red, White Plymouth Rock and Rhode Island Red.

Things to Do

Plan to do two (2)

- _____ Go to the library and read about the different poultry breeds.
- _____ Identify, describe and tell the important characteristics of your breed of chickens.
- _____ Give a project talk on your breed.
- _____ Identify and describe three (3) breeds in your project area.

Buying Chicks

It is best to buy chicks from a reliable commercial hatchery. The Extension agent in your county, the Poultry Science Department at The Ohio State University, or the Ohio Poultry Association, 674 West Lane Avenue, Columbus, Ohio 43210, can furnish you with a list of hatcheries located in Ohio that sell high-quality chicks. It is advised not to order chicks through mail order catalogs out of state unless you are buying a rare breed or variety. The hatchery should be a member of the National Poultry Improvement Plan. These hatcheries blood test their breeder flocks for pullorum and typhoid and produce chicks from birds that do not have these diseases.

The most expensive chicks may not necessarily be the best quality chicks you can purchase. Order your chicks at least four weeks before the date you would like to start them. March and April are the months to start chicks for small-laying flocks. It is easier to brood the chicks when the weather is beginning to get warmer, and they will come into production in the fall and winter. If you plan to show your birds in competition, they will be more fully developed than chicks hatched at a later date. Leghorn-type chicks will start laying at

about five months, while the dual purpose birds will start to lay in about six months.

Your county may also have a chick pool where all poultry exhibitors purchase their chicks from the same group of chicks. Contact your county Extension agent for more details.

Things to Do

Plan to do two (2)

- _____ Describe the following terms: chick, pullet, cockbird, hen.
- _____ Give a project talk on your breed.
- _____ Start or add to your library on poultry and their management.

Basic Housing Needs

Housing for your birds does not have to be large or elaborate. If you are rearing only a small number of chicks, they can be cared for in almost any sort of enclosure or pen. If you have a chicken house or other outbuilding, that's great!! But you also can make do with an enclosed storage shed or even a garage. Remember, wherever the chicks are raised, they must have fresh air, they must be kept warm and they must be safe from dogs, cats, birds, rats and other predators. If possible the building should have a window that provides natural light and can be opened for air circulation. If you live in an urban or suburban area, check with city or county governments about zoning ordinances. Many towns have laws concerning the number of animals allowed within town boundaries.

Each chick should have one half square foot or more of floor space for about the first four to five weeks. If you rear and keep layers, you will need about two square feet of floor space per bird for the light type birds and two to three square feet per bird for heavier layers. You also can house ready-to-lay pullets in cages.

Brooding Equipment

Young chicks are unable to maintain their body temperature without an additional source of heat.

Age of Chicks	Temperature
1 day to 1 week	95° F
1 week to 2 weeks	90° F
2 weeks to 3 weeks	85° F
3 weeks to 4 weeks	80° F
4 weeks to 5 weeks	75° F
5 weeks to 6 weeks	70° F

After 6 weeks, temperature should be kept at 70° F as long as needed.

For small flocks, brooding can be done with an electric or gas brooder or an infrared lamp. Infrared will help prevent pecking. For very small flocks, two 100-150 watt incandescent light bulbs are sufficient.

Hang the bulbs low enough so that the chicks get all the heat they need, but not so low that you risk setting the litter on fire. Watch the chicks carefully to see if they are comfortable. If it is too warm, the chicks will scatter, if it is too cold, they will huddle under the heat source and may smother each other.

Place a barrier around the heat source to prevent chicks from wandering away from the heat and to prevent drafts from the floor. As chicks grow, they will need additional space so the barrier should be removed after two weeks.

Feeders and Waterers

When selecting feeders and waterers, remember chicks grow fast, so the space and size of the equipment used needs to increase to meet their needs.

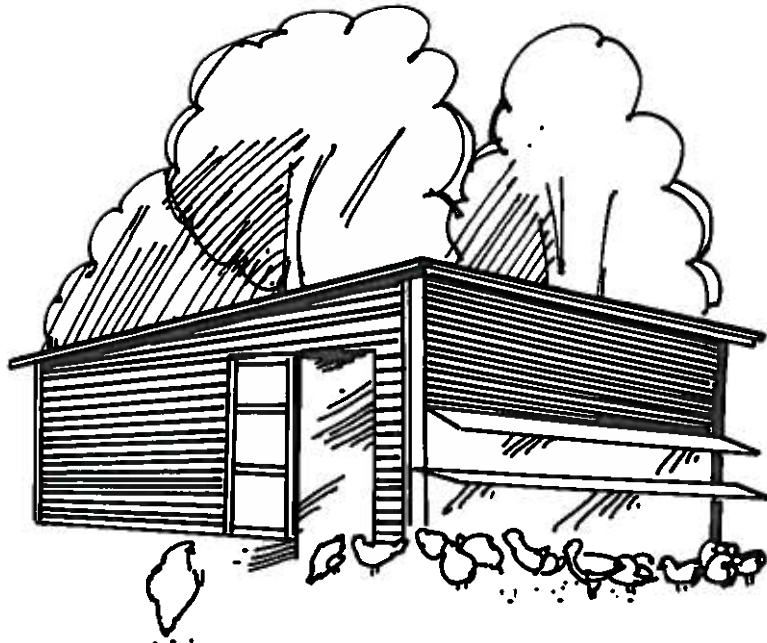
Start baby chicks on feed by placing some starter ration in a small feeder and some on an old egg flat, piece of cardboard or newspaper next to the feeder. After about four days, add small chick feeders and gradually remove the feeder trays. Use chick-sized feeders for the first two weeks.

Plan at least 1 inch of feeder space per chick through four weeks of age. After four weeks of age, provide at least 2-3 inches of feeder space per bird. Two types of the non-automatic feeders are commonly used in small flock operations. Tube type feeders can be suspended from the ceiling and can be easily raised, keeping up with the chicks growth. If you use trough-type feeders, they should be increased in depth, length and height as the birds grow.

As with any livestock, chicks need fresh, clean water available to them at all times. Start your chicks on small gravity-fed water fountains. Use one quart fountain-type waterers per 100 chicks during the first week. Water fountains should increase in size as the chicks grow. Place waterers on wire-bottom stands made of 1 x 4-inch boards to keep the water clean and the surrounding litter dry.

Lighting

Continuous artificial lighting is recommended during the first three days of the brooding period. A common 10 or 15 watt light can help chicks find feed and water



at all times. During the remainder of the growing period, provide a constant day length of nine hours per day in light-tight facilities or equal to 1/2 hour before sunrise and 1/2 hour after sunset for the longest day in the growing period for the non-light-tight house.

Egg production should be stimulated by increasing the light period to 15 or 16 hours at 19 to 20 weeks of age. Make certain that the light period is maintained with the same number of hours throughout the laying period. A decrease in the day length during lay will cause the hens to go out of production and into a feather molt. To eliminate the chance of forgetting to turn the lights on and off, an automatic timer is worth the small added expense.

Things to Do

Plan to do both

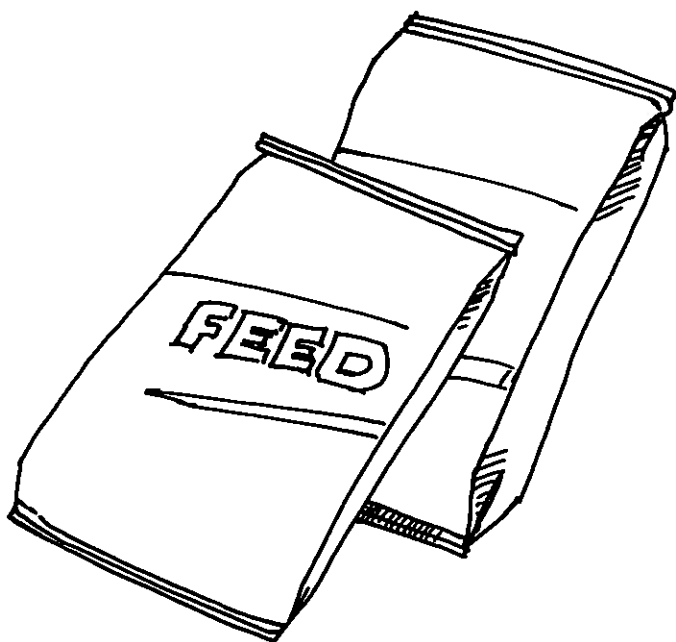
- _____ Identify a minimum of 10 pieces of equipment that are used primarily for raising poultry.
- _____ Present a report on the effect of lighting on egg production.

Feeding Chicks

You will want to purchase complete feeds containing all needed nutrients. Most poultry producers prefer to give their chicks a starter mash containing 18-20 percent protein, during the first eight weeks. At eight weeks of age, change the ration to a complete grower. Continue feeding the grower until the pullets begin to lay at which time switch to a layer ration.

The grower ration usually contains approximately 16 percent protein and is fed from week 8 to 20. Beyond 20 weeks, a layer ration needs to be fed, containing 16

to 19 percent protein and also a calcium and phosphorus supplement. The minerals are needed for maintenance of the skeletal system and for the production of good egg shells. Do not feed rations containing calcium to growing birds; they could develop bone and kidney problems. Calcium also can be supplemented by providing chickens free choice to ground oyster shells.



Things to Do

Plan to do two (2)

- _____ Using five ingredients of your choice, balance a ration for one age of birds.
- _____ Outline the nutrient requirements for breeding fowl.
- _____ Compare feed tags from a starter ration and a layer ration and explain any differences you observe in your log.
- _____ Explain one function of each of the five nutrients: protein, energy, minerals, vitamins and water.

Layer Flock Management

Management is the key to successfully raising poultry. Without proper management, chickens will not grow efficiently, egg production will be low and your birds just won't show well.

Check on your birds at least twice a day, looking for such things as drafts, uneaten feed, too much or too little water use, changes in the birds appearance and listlessness. Six major areas deserve special attention: sanitation, cannibalism, disease and internal parasite control, insect control, culling, and record keeping.

Sanitation

Good sanitation is a must in all phases of poultry production to insure top bird performance and prevent the spread of disease. Sanitation practices are needed before a new batch of birds arrive and then everyday thereafter.

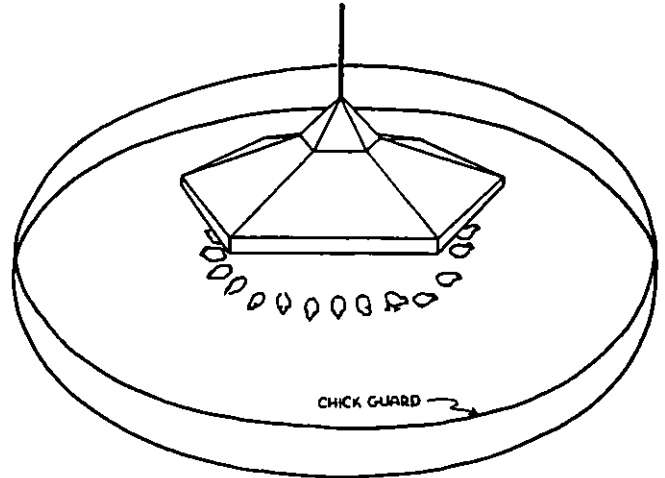
Preparing for a New Flock Start with a clean house. Before the baby chicks arrive, remove all equipment from the building and thoroughly clean and sanitize the house. Sweep down the walls and ceilings to remove cobwebs and dust. Then wash with warm water and a detergent. All old litter should be removed and hauled away. Disinfect the entire building with a commercial disinfectant. The hatchery where you purchased your chicks should be able to recommend one.

The feeders and waterers should be washed clean and sanitized and placed in the sunshine to dry. Allow both the facility and the equipment to stand unused for several days before putting your new chicks in place. Place and level the litter material about one week before the chicks arrive.

Set up and operate brooders one or two days before the chicks arrive. It may be necessary to make adjustments in temperature and to also check to see that the thermostats are working properly. If using an infrared heat lamp, adjust the height and make sure that the lamp does not fall into the litter and cause a fire.

Set the thermostat so that the temperature at chick level is 95 degrees. Reduce the temperature 5 degrees each week until it reaches 70°F. The chicks will indicate if they are comfortable by moving toward (if too cold) or away from the heat (if too warm). You will have to watch your chicks to see that they are comfortable.

Everyday Sanitation Diseases are usually transmitted to younger birds from older ones. Clean feeders frequently to remove caked feed. Wash the waterers daily with disinfectant and use a brush to clean them.



Cannibalism

Chickens often develop a habit of pecking at each other. If allowed to continue, cannibalism can result in serious loss.

Prevent cannibalism and feather picking by buying chicks that have been beak trimmed at the hatchery. Over crowding, poor ventilation, too little eating or drinking space, too much light, and the appearance of blood on an injured bird are factors that can lead to cannibalism.

Disease and Internal Parasite Control

Strong healthy chicks resist disease and get well quicker. Coccidiosis is a serious disease of growing birds. Affected birds huddle, look pale and ruffled and may have diarrhea with bloody droppings. They die soon after symptoms appear.

The first step to disease protection is to provide clean, comfortable housing for poultry. Wet litter is a primary source of coccidial oocysts. Remove and replace all wet, caked litter. Also, use feeds that contain a coccidiostat; that is, a medication to prevent coccidiosis.

A sound vaccination program is well worth the effort and expense. Ask at your hatchery for recommendations

concerning vaccination of your flock, as well as for a reliable source of the vaccines required. Purchasing chicks from a National Poultry Improvement Plan (NPIP) approved hatchery insures freedom from Pullorum disease. Pullorum is a bacterial disease passed by the hen to her chick through the egg. An infected chick quickly spreads the disease to healthy chicks. There is no cure for pullorum.

The most common internal parasites of poultry are round worms, whose eggs are laid in the soil. Internal parasites are more of a problem in flocks that run outside. Internal parasites are treated with special medication added either to the feed or drinking water.

External parasite control relies primarily on sanitation and cleanliness. Lice will be kept in check with normal poultry management. However severe infestations may require treatment with an approved insecticide. For more information contact your county Extension agent or ask at your local hatchery.

Things to Do

Plan to do two (2)

- _____ Identify and compare three common external parasites of your project birds.
- _____ Make a list of medications currently being used to cure or control poultry diseases.
- _____ Prepare a report on a common poultry disease.
- _____ Demonstrate one way to control cannibalism in poultry.

Marketing Eggs

Eggs can be profitable and fun. You will need to learn how to candle and weigh eggs. Contact your county Extension agent to ask for help in obtaining USDA publications on egg grading.

Most eggs are laid with a clean, sound shell and good interior quality. To keep eggs clean, the nesting material needs to be changed often. Gather eggs at least twice a day. Male birds need not be kept with females unless hatching or fertile eggs are desired. Most market eggs are infertile.

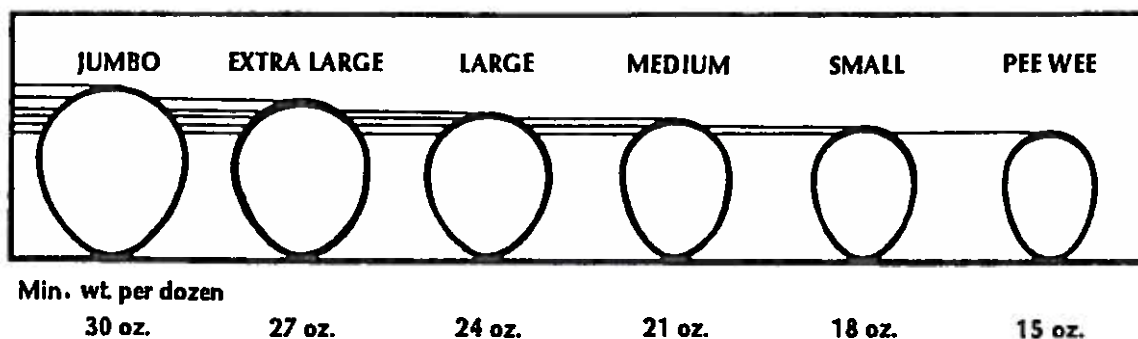
Sell eggs that are clean and free from blood stains, droppings, or other material or stains on the shell surface. Clean dirty eggs soon after gathering before dirt has dried. To clean a small number of eggs, wipe the

eggs with a towel dipped in vinegar. A small piece of sandpaper also can be used to rub away small stains. If the eggs are not to be cleaned at once, they should be cooled to a temperature of 50-60°F and the relative humidity should be about 75 percent.

If the eggs are to be sold directly to consumers, they should be candled and weighed. Eggs are graded on quality and size. USDA publications on egg grading provide size standards.

Quality

The only way to judge interior quality without breaking open an egg is by candling. A candling light is a simple device by which you can observe the size and condition of the air cell, yolk and white. To candle, place an egg



before a bright light in a darkened room and let the light rays show what is inside. Egg candlers are easy and inexpensive to make. Commercially produced candlers can be purchased from a farm supply store. A simple candler can be made from a few pieces of wood and a 60 watt light.

To candle an egg, hold it lengthwise between the thumb and index finger using the middle finger as an extra brace. With the small end of the egg pointed toward the palm of your hand, place the large end before the candling light and look at the contents. Then turn your hand 180 degrees with a sharp wrist movement to spin the eggs contents.

You will be able to see the air cell at the large end and the position of the yolk in the center by the shadows they cast. Any blood spots or defects present will usually appear as reddish or dark-brown objects. Cracks in the shell will appear as white lines.

Size

Shape, soundness and cleanliness of the shell are exterior quality factors. The normal egg has an oval shape with one end larger than the other, tapering toward the smaller end. Eggs that are abnormal in shape, with ridges, rough areas or thin spots are given a lower grade. The shells of these eggs are weaker than normal shells and are more likely to break. The color of the shell has nothing to do with egg quality.

The size of the egg is measured by weight in ounces per dozen or grams per egg. An egg scale makes weighing eggs easy. USDA standards provide the weight of individual eggs.

Pack eggs with the large end up. Canded and graded eggs packed in an attractive carton will please the customer.

Things to Do

Plan to do two (2)

- _____ Participate on a poultry judging team. (Contact your county Extension agent for more information.)
- _____ Complete the third marketing activity if you have a poultry flock and first and second activity if you do not have a poultry flock. (See appendix for these activities.)
- _____ Purchase or build an egg candler.
- _____ Explain the U.S. Grades of eggs.

Selecting, Preparing and Showing Poultry

Exhibiting your birds at the fair is fun. You have the opportunity to compare your birds with those raised by other club members, and you may win ribbons and prizes. Exhibiting at the fair teaches you a lot about poultry breeds and what determines quality.

Selecting Birds to Show

Keep your birds under observation during the growing period. Mark the best birds so that when show time arrives, you will know which birds to select. Plastic leg bands are best for marking. In this process, you first eliminate those birds that probably are not winners, then you can choose the best from among those that are left. Follow these steps to prepare for your final selection:

1. Make a preliminary selection 2-3 weeks before showing. Examine the birds in your flock and separate for further consideration those having the following characteristics that make good or potentially good egg producers:

- Bleached skin and shanks
- Three finger abdominal width and depth
- Soft, pliable pubic bones
- Thinness of skin below the pubic bones
- A thin, trim body
- Head proportionate to comb & wattles
- Sparkling, round, bright clean eyes
- Bleached, moist, large, oblong-shaped vent

2. From those you judge to be good producers, select two for every one you wish to show.
3. Choose your finalists by looking for the truest representatives of the breed as described in the *American Standard of Perfection*.
4. Separate those selected from the rest of the flock and feed and water them well.

- Pick up the birds and handle them at least once a day.

The final selection of the show pen from the original group should be made at least the day before the fair or show. Follow these steps for your final selection:

- Select birds that look as much alike as possible. If you have white birds, be sure they are all white, red birds all red, and so on. One of each color detracts from the exhibit.
- Select birds that are all the same size and weight. A uniform pen impresses the judge.
- Avoid taking birds that have mites or lice to the show. Judges hate lice and mites.
- Select birds that are healthy.

Preparing Birds for Show

A day or two ahead of when you will be exhibiting, give your birds a bath so they will show their very best. Cleaning them also will remove any external parasites. As a rule, birds with colored feathers do not need much feather cleaning. However, birds with white plumage are a different matter. Even the lightest soiling will show on them.

Many of the soiled spots showing on white birds can be cleaned by simply rubbing them with corn meal. However, heavier, more stubborn stains will require sponging with a solution of shampoo. You can stand the bird in a shallow pan for cleaning; or, if the bird is soiled over a large area of its body, you may find it easier to immerse it in water up to the head. In any case, you will want to keep two things in mind: 1) always

Procedure	How Done	Reason
1. Remove bird from exhibition coop.	Always head first, with one hand over back, the other under body with fingers around legs.	Prevents excitement and struggle of bird to get away.
2. Hold the bird.	Pick up bird by spreading your fingers and placing your hand palm up under the bird's breast as it faces you. As your palm touches the breast, you will find that the bird's legs will be between your fingers. As you lift the bird, gently grasp the legs by closing the fingers. You can now lift the bird without having it squirm and fight.	Makes the bird feel at ease. Isn't so likely to struggle. The bird is easy to handle.
3. Examine head.	Hold head of bird alert by prodding at the region of the wattles.	To note comb, eyes, shape of head, and any defects present.
4. Examine wings.	Open either wing with free hand. To open the other wing, merely pass hand, palm up, over to that side. Grasp wing bow and fan out wing. (There is no need to transfer bird to the other hand.)	To note color, absence of feathers, slipped wings, split wings, and twisted feathers.
5. Examine body plumage.	Over back, on breast and body.	For color and quality, presence of lice.
6. Examine tail plumage.	Give the tail piece a quick flip up and down.	For color and feather quality. To detect tail defects.
7. Examine shanks and feet.	Place free hand on back of bird. Turn bird upside down. Back of the bird should rest in the palm of the hand.	To note color, crooked toes, feather stubs between toes and on shanks.
8. Examine body.	Hold as in No. 7.	To note width and depth of body and amount of fleshing on body—also body defects.
9. Hand bird to judge.	Head first.	To let him check and verify and points he desires.
10. Return bird to coop.	Head first.	To keep bird smooth and unruffled.
11. Return to position by the coop.	Keep your bird on the alert until judge has made a decision.	Give judge better opportunity to see the bird.

sponge and rub with the feathers, not against them; and 2) rinse the bird completely after shampooing—several times with warm water—to remove all soap residue, which can leave a "stickiness" on the feathers. After rinsing, damp dry the wet bird with a towel, then "blow dry" with a hair drier.

After the feathers are cleaned, the feet and shanks should be washed with shampoo, rinsed, and then dried. (When it is necessary to immerse or stand birds, this step can be accomplished at the time the plumage is prepared.) Birds that carry stubborn dirt on their toes and shanks are best treated by soaking the area for several minutes, then scrubbing it with an old tooth brush.

After cleaning, the bird should be placed on fresh, clean litter or in a wire-bottomed cage to keep the feet, shanks and feathers clean. In the few days before the fair, chickens will re-coat their feathers with the natural wax produced by the preen gland.

Showing Poultry

Several hours before judging, give the birds a final check. However, care must be taken not to over-handle the birds and cause them to be tired at the time of judging. Small soiled spots on the feathers and feet can be wiped with a damp facial tissue. A bright luster can be added to the comb, wattles, ear lobes, and feet and toes by applying a sweet oil, such as olive or cooking oil with a small piece of cloth. Use just enough oil to provide a very light coating.

Judging Poultry

When you show your birds, be proud of a job well done. You want to demonstrate to the people watching and to the judge that you have learned a lot from your experience with your project.

Remember when you show poultry or any other project, it is you who is being graded by the judge. The judge looks at how well you know how to handle your birds and how well you have prepared them.

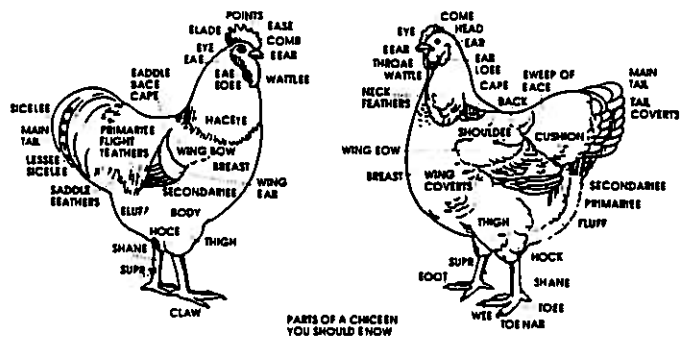
To make the evaluation, the judge will ask you to do things with your birds. What is asked depends on judging methods, which vary from judge to judge; it also depends upon the cages and tables available at the fair, which often limit how the birds can be handled and displayed. At most shows, before judging begins, the superintendent or the judge will outline the procedure to be followed. Listen carefully to the instructions. Failure to follow directions can reduce your grade.

As evaluation proceeds, the judge will ask you to carry out a number of handling procedures. As you perform these tasks, he will ask questions. As you respond, remember to be proud of the job you have done.

The chart on page 10 outlines the "how" and "why" of some things you may be asked to do.

You should be able to answer questions about your project when asked by the judge. Typical questions might be:

1. What breed is your birds?
2. What is the age of your birds?
3. What is the incubation period for chicken eggs?
4. Is a rooster necessary for egg production?
5. Name five parts of the head.
6. What is dubbing?
7. What are the large wing feathers called?



Things to Do

Plan to do two (2)

- _____ Demonstrate how to select and prepare birds for pullet show.
- _____ Visit a major poultry exhibition and make a list of 10 breeds and varieties shown.
- _____ Exhibit poultry at county or state fair.
- _____ Enter a poultry showmanship contest.
- _____ Obtain a copy of the *American Standard of Perfection* to learn about the breeds and varieties of poultry.
- _____ Demonstrate how to properly show a pullet.

Exploring Careers in Poultry

Choosing a career is an important decision that anyone must make. Knowing your interests and learning about career opportunities that reflect those interests will help in setting and attaining your career goals. A productive career should result from your 4-H projects, events and activities.

The poultry industry continues to grow and change, evolving with technology as well as consumer needs. This growth has created new careers for those with interest in public services, industrial research and development, agribusiness, and production.

Public Service Careers

Public service refers to career options with a government agency.

Teaching

A successful teacher in poultry science has a broad knowledge of biological and physical sciences in addition to good training in agriculture. Teaching positions are available, but usually require education beyond the B.S. degree.

Careers in Research

Special training in genetics, nutrition, physiology, biotechnology, poultry food technology, poultry management, poultry and egg processing, economics, marketing or pathology is required of researchers in poultry science. There are positions in federal or state experiment stations for those who enjoy the challenge of research. At the university level, a position may include teaching, research or Extension.

Cooperative Extension Service

If you want a career that offers variety, challenge, rewards, leadership, initiative and creativity, the Extension Service may be for you. County Extension agents are well trained college graduates. To serve the needs of the people, the agents must have a background in a variety of agricultural subjects. The poultry specialist interprets technical reports and uses the information to help the broiler and egg industry improve productivity and efficiency.

Poultry and Egg Grading

Poultry graders determine and certify the class, quality and condition of poultry, shell eggs and egg products. They assign the correct USDA grade to poultry and ensure correct labeling and packaging of various types of poultry.

A poultry grader usually has a B.S. or M.S. degree in poultry science, animal science or food technology.

Careers in Agriculture

The poultry industry is a worldwide agribusiness that needs people with B.S., M.S. or Ph.D. degrees in business and marketing. Here are some of the opportunities available:

- Marketing and sales
- Business management
- Research and development
- Quality control
- Accounting and finance
- Legal affairs

Careers in Production and Management

Interested in producing broilers, turkeys or eggs? Do you enjoy working on a farm, living and working close to nature? There are many farm-related jobs in the industry:

- Breeder flock management
- Hatchery management
- Poultry production
- Feed mill management
- Company service representative
- Poultry and egg processing plant management

With the variety of poultry careers, it may be difficult to select the right one for you, or it may be necessary to seek advice from many sources.

Things to Do

Plan to do two (2)

- _____ Visit the campus poultry farms at The Ohio State University or the Ohio Agricultural Research and Development Center in Wooster.
- _____ Schedule and conduct an interview with someone with a career in your selected field of interest.
- _____ Visit the library and do some research on your career interest area. (What education do you need? What does the job require?)
- _____ Give a talk, illustrated talk or demonstration on careers in the poultry industry.

Keeping Records

Are your egg production records in one place? Can you find all of your feed bills? Can you calculate the cost per dozen of eggs produced? Can you determine your egg/feed ratio?

Accurate records of income and expenses are important so that you know your financial situation. Records inform you of progress and accomplishment. Records also give experience and training that will be useful in adult life.

Accurate records help you make decisions about where you can cut costs to increase your income. The records you need to keep include the following:

1. Expenses
2. Income
3. Egg production
4. Death/mortality

Computerizing Your Records

If you have access to a computer, you may want to computerize your records. Computerized records can be used no matter what your flock's size. Learning how to program and keep records on your computer will help you better understand the workings of a computer. And, it will better prepare you for a variety of jobs later in life.

Each type of computer is different. If you decide to computerize your records, your task will be to design and use a computer program to keep all of the records that you require. The record forms in this book are good places to begin. You will probably want to revise them to better meet your needs and the ability of your computer.

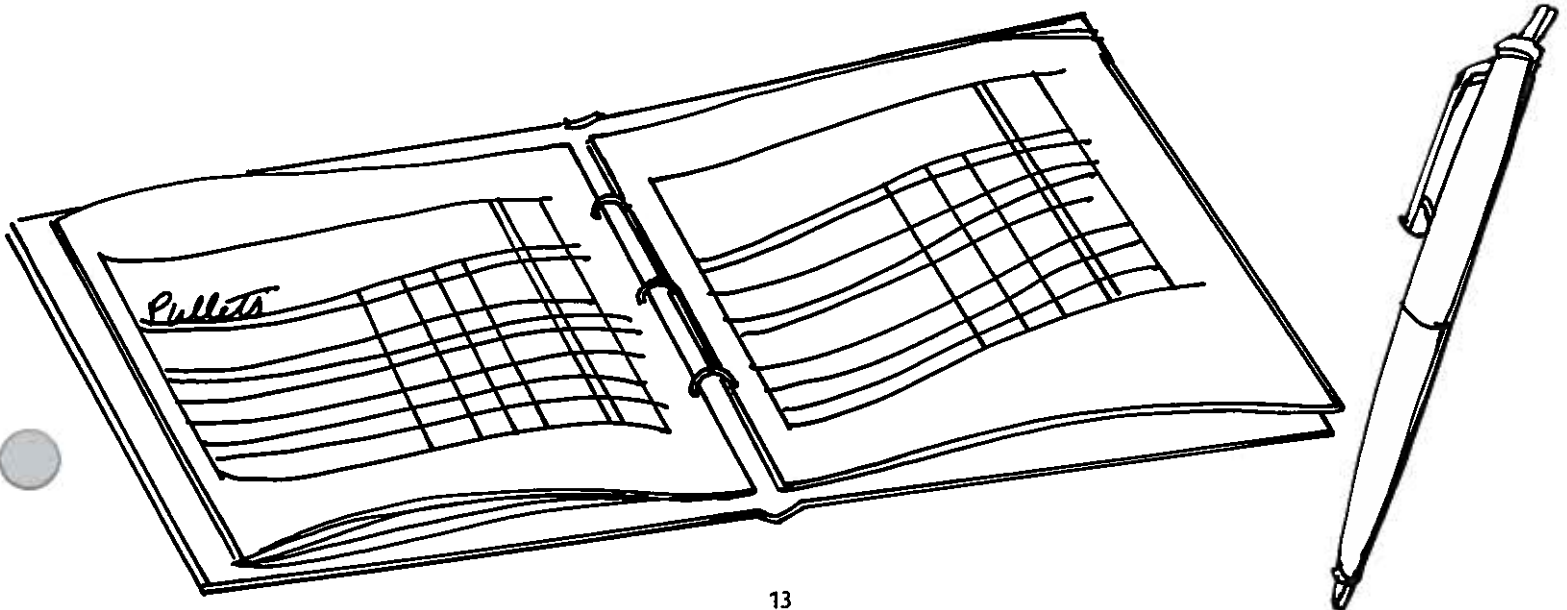
With the variety of computers on the market, we can not give you specific instructions on programming the records. However, the following may help.

1. Your computer's program manual can provide language instruction.
2. There may be a data base management software package available for your computer that will perform the required functions.
3. There are three 4-H computer projects available. This could be a good companion project for your poultry project. Ask your advisor for more information.

Things to Do

Plan to do two (2)

- Keep a record of the feed and water your chickens consume.
- Keep a layer production record on 15 or more layers. Keep pounds of feed fed, cost of feed, income and determine cost per dozen.
- Help a younger 4-H member with records.
- Give a demonstration on how to keep accurate and useful records.



Project Inventory

What I have on hand	Beginning of Year		End of Year		Birds Removed		Birds Added
	Number	Value	Number	Value	Dead	Culled	
Chicks							
Feed							
Mash							
Grain							
Equipment							
Brooder Stoves							
Feeders							
Waterers							
Supplies							
Litter							
Total Value							

Profit or Loss Statement

Income

Poultry on hand at end of project year at current value \$ _____
 Income (poultry or eggs sold or used) \$ _____
 Other income (name the source: _____) \$ _____
Total Income \$ _____

Expenses

Birds you started with or bought during project year \$ _____
 Feed cost \$ _____
 Other expenses \$ _____
Total Expenses Profit or Loss \$ _____
(Income—Expenses)

Expenses

Month	Kind of Feed or Item (Grain, mash, grit, litter, etc.)	Feed Purchased		Home Grown Feed		Other Supplies
		Lbs.	Cost	Lbs.	Value	
Total						

Income

Month	No. of Birds	Eggs		Dozen		Total Cash
		Sold	Used Home	Sold	Used Home	

From _____ 19____ to _____ 19____

Monthly Laying Record

Name _____

Address _____

Number of hens started _____ Date hens started laying _____

Complete the record below from the daily records kept in your hen house.

Month	No. Eggs Produced	No. Eggs Used at Home	No. Birds Removed	Pounds of Feed Fed	Miscellaneous	
					Income	Cost

Project Summary

1. Total eggs produced _____dozen.
2. Total number of eggs sold _____dozen.
3. Total income _____
4. Total cost to laying age _____
5. Total cost through laying period _____

Egg Production Record

Daily production should be marked to show how your birds are doing.

	1st Collection	2nd Collection	3rd Collection	Total Eggs for Day	Total Feed Added	No. Birds Died	Remarks
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							

26							
27							
28							
29							
30							
31							
Total							

4-H Poultry Marketing Record

Activity 1 Marketing Questions

1. Name six important stages.

2. List the egg quality factors of the USDA grading system.

1. _____	2. _____
a. _____	a. _____
b. _____	b. _____
c. _____	c. _____

3. Why is it important to keep eggs refrigerated?

5. Describe a "large size," AA egg.

6. Make a list of eight poultry meat products and eight egg products available in a nearby supermarket.

Poultry and meat products

Egg products

_____	_____
_____	_____
_____	_____
_____	_____

Marketing Hunt

Find the nine different marketing words hidden in the puzzle. They may be listed horizontally, vertically, or diagonally.

Words to find:

broiler
candling
class

egg
grade
growout

hen
inspection
quality

I	W	O	I	G	Q	R	T	S	G
F	N	P	T	R	Z	P	C	N	D
E	R	S	Q	A	L	G	I	T	R
I	R	J	P	D	G	L	Q	K	L
H	E	N	M	E	D	X	U	Y	P
M	L	P	Q	N	C	L	A	S	S
E	I	D	A	Z	L	T	L	Q	U
G	O	C	B	K	H	R	I	X	W
G	R	O	W	O	U	T	T	O	L
A	B	T	I	U	L	E	Y	B	N

4-H Poultry Marketing Record
Activity 2

1. Visit your local supermarket and get permission from the supermarket manager to complete the exercise below.

Item	Cost per Serving		Cost per serving
	Store price	Amount to buy for each serving	
Whole chicken	_____	1/2 pound	_____
Halves	_____	1/2 pound	_____
Breast halves	_____	1/3 pound	_____
Drumsticks and thighs	_____	1/2 pound	_____
Boned, canned	_____	3 ounces	_____
Chicken a la King	_____	3 ounces	_____
Chicken, noodles or dumplings	_____	3 ounces	_____
Chicken with gravy	_____	3 ounces	_____

4-H Poultry Marketing Record

Activity 3

Customer Sales Record

Date	Customer	Dozen of eggs sold	Price per dozen

Summary of Standards for Interior Quality of Eggs by Candling

Quality Factor	AA Quality	A Quality	B Quality	Undergrade
Air Cell	1/8 inch or less in depth.	3/16 inch or less in depth.	More than 3/16 in depth.	----
White	Clear Firm	Clear May be reasonably firm.	Clear May be slightly weak.	----
Yolk	Outline slightly defined.	Outline may be fairly well defined.	Outline may be well defined.	----
Blood Spots	None	None	None	Blood Spots adding to more than 1/8" in diameter.

Summary of Standards for Exterior Quality of Eggs

Factor	Grade		
	AA or A	B	Undergrades
Stain	Clean—may show small specks or stains that do not detract from general clean appearance.	Moderate localized stains up to 1/32 of shell surface or moderate scattered stains covering less than 1/16 of shell surface.	Moderate localized stains covering more than 1/32 of shell surface or moderate scattered stains covering more than 1/16 of shell surface or any prominent stain.
Adhering dirt or foreign material	None	None	Adhering dirt or foreign material.
Egg Shape	Normal Shape	May be misshapen (very long or distorted).	----
Shell Texture	Even texture, but may have rough areas that do not affect shape or strength.	May have extremely rough areas.	----
Body checks/ridges	Slight ridges that do not affect shape or strength.	May have pronounced ridges and/or body checks.	----
Shell Thickness	Free from thin spots.	May have pronounced thin areas.	----

Year _____ Treatment Record

Treatment Date & Time	Animal ID <ul style="list-style-type: none">• Name• Species• ID Number• Description	Condition Being Treated For	Estimated Weight	Treatment Given (Medication Dispensed, Amount and Route)	Instructed Milk/Meat Withdrawal	Results	Date & Time Withdrawal Complete	If this is an extra label or Rx drug, list the licensed veterinarian's name, address & phone number who prescribed or directed the treatment.

Caring for Animals

Animal Well-Being, Quality Assurance, Show Ring Ethics

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Written by: *Ann McGovern Klelein*, Ohio Farm Bureau
Sherry Nickles, Extension Agent, 4-H, Wayne County
David R. Smith, D.V.M., Veterinarian, Ashland, Ohio

Reviewed by: *Gary Bowman*, D.V.M., OSU Extension Veterinarian

Acknowledgements: Quality Assurance and Animal Care Youth Education Program

Goals and Objectives

- ◆ Increase the awareness of the issues of animal well-being, quality assurance, and show animal ethics.
- ◆ Encourage you, the 4-H member, to reflect on your values concerning these issues.

Privileges, Responsibilities, and Rewards

Everyone associated with livestock—either on the farm or in the show ring—is responsible for the well-being of their animals. As a 4-H member, you need to learn to care properly for your projects and develop acceptable livestock husbandry skills.

Your duty as a 4-H member is to properly care for your animals. As a 4-H animal owner, you need to understand the privileges, responsibilities, and rewards that you can expect from the 4-H program.

Privileges

- ◆ to know as much about your project as possible
- ◆ to receive information to raise the project
- ◆ to be given a variety of experiences relating to project work
- ◆ to be given sound guidance and direction
- ◆ to ask questions and share concerns
- ◆ to be recognized

Responsibilities

- ◆ to humanely treat all livestock projects in your possession
- ◆ to be sincere and believe in the value of a job well done
- ◆ to be loyal to the values and ideals of the 4-H program
- ◆ to accept the guidance and decisions of the program coordinators
- ◆ to be willing to learn and participate in training programs and meetings
- ◆ to continue learning throughout your years of 4-H membership
- ◆ to follow good practices insuring a safe, wholesome product of the highest quality

Rewards

- ◆ to enjoy satisfaction from a job well done
- ◆ to receive both public and personal recognition
- ◆ to learn new skills, receive special training, and experience personal growth
- ◆ to make new friends and have fun
- ◆ to feel good about producing a wholesome, consumable product
- ◆ to know you are special and you can make a difference

Animal Well-Being

As a 4-H member, you need to be aware of the things you can do with your own animal to promote animal well-being. The image of the agricultural industry and the 4-H program are affected by the decisions you make and actions you take in the care of your animal. You need to set goals and develop a plan that will positively impact your animal's well-being; either on the farm, in your backyard, or at the county fair.

You can complete some tasks before you even obtain your animal. First, think about the size your animal will be as it grows to maturity. Are your facilities large enough for the animal to exercise in? Are there hazards where you are going to keep your animal such as protruding nails, broken boards, or exposed wire? Can the animal reach any potentially dangerous objects? (For example, an electrical box or a poisonous plant.) Think about the type of bedding you will

be using and the quantity it will take to keep your animal dry and warm. You should have an ample supply of clean water available to your animals at all times. A designated feeding area should be kept free of manure, urine, and bedding.

Once your animal arrives and is in your care, providing it with a balanced ration is an important first step. Many processed feeds, supplements, and pre-mixes are available. Be sure your animal is receiving the nutrition it needs in relation to its age, growth cycle, and purpose. Your animal also needs special consideration if it is in gestation, in lactation, or at stud.

Animal Health

When questions or concerns arise, involve your veterinarian. Develop a veterinarian-client-patient relationship (VCPR). This relationship requires that the veterinarian has seen and has knowledge of the animal (patient) and has discussed a health plan or any treatments with the owner (client). Your veterinarian can be very helpful in developing a health care program for your animal. Your plan should include an appropriate schedule for vaccinating, castrating, dehorning, tail docking, internal/external parasite control, etc. You should check with your veterinarian before administering treat-

ments, especially if there is any question about the diagnosis and the medication you are planning on using. If injections are necessary, give them in the proper location using good technique.

Injection sites in the neck are recommended to avoid possible damage to

high priced meat cuts such as the ham and round. Use subcutaneous (SQ) injections (under the skin) whenever allowed by the label directions.

A withdrawal time may be indicated on the label of certain medications. This is the period of time that must pass between the last treatment and the time the animal may be slaughtered. For example, if a medication with a 14-day withdrawal period was last given on August 1st, the first day the animal could be slaughtered would be August 15th. It is important that you follow withdrawal time directions as given by the label or as prescribed by your veterinarian.



In addition to the withdrawal time, the label of a drug lists the animal species for which the drug is approved, the dosage to be administered, how it is to be given, and for what diseases/conditions it can be used as a treatment. Any use, other than that printed on the label, can only be directed or prescribed by your veterinarian. For example, a neighbor's animal is sick and a veterinarian has treated it using twice the dose listed on the label of an OTC (over-the-counter) product. Your animal becomes ill and is showing the same symptoms as your neighbor's. You may not use the neighbor's double dose for your animal without a veterinarian examining and prescribing the specific treatment. Any deviation from the label directions when using a drug is referred to as extra-label drug use. Unless directed by a veterinarian who has established a VCPR, **extra-label drug use is illegal.**

Each animal in your care needs to be permanently identified. Individual animal identification enables good recordkeeping, from which you can measure your progress. If your animal becomes lost, stolen, or needs medical attention when you are not available, the only way to know the animal's identity and health history is by permanent identification. This is most commonly done by tattooing or ear tagging. Your county 4-H program may identify all 4-H animals through county-wide tagging or tattooing. If not, you are responsible for identifying all of your animals.

Training animals and acquainting yourself with them needs to begin at an early age or as soon as you acquire your animal. If at all possible, you should spend time with your animal daily. As you walk, stand, and set-up your animal, you both develop trust and

become accustomed to each others' movements. You also become aware of what sounds or sights bother your animal and in which direction it tends to jump or shy away from. Handling your animal daily also helps you to recognize abnormal behavior in your animal that could signal illness, stress, or pain. The longer you avoid working with your animal, the more difficult training and preparation for show becomes. The two P's—practice and patience—usually pay off.

From the day you acquire your animal until the day it leaves your care, you should maintain feed and treatment records. This is important for the continual care of your animal and for whomever might later purchase your animal. This is also the best way to keep track of the kinds and amounts of expenses you have incurred with your project.

Finally, if you plan to exhibit your animal for show or sale, continue the same quality care program throughout the exhibition as you did at home. This starts by loading and hauling your animal safely and with concern for its well-being. The exhibition facilities should be prepared and checked ahead of time, just as you prepared your facilities at home when you first acquired your animal. Continually watch your animal for signs of stress, pain, or illness. Exercise your animal daily. Clean, feed, and water your animal regularly.

Above all, enjoy your animal project experience. You should feel good about the knowledge you gain and the quality care program you develop and implement with your animal project.



Care That You Are Giving Your Animals

Check the ways in which you are already caring for your animal. If you want to improve how you care for your animal, check that column too.

Care	I am already doing	I want to improve
Prepare facilities before I get my animal	<input type="checkbox"/>	<input type="checkbox"/>
Provide adequate housing and bedding	<input type="checkbox"/>	<input type="checkbox"/>
Control internal and external parasites	<input type="checkbox"/>	<input type="checkbox"/>
Castrate animals when they are young	<input type="checkbox"/>	<input type="checkbox"/>
Train animals to be handled at a young age	<input type="checkbox"/>	<input type="checkbox"/>
Have a planned health program to prevent disease	<input type="checkbox"/>	<input type="checkbox"/>
Observe animals daily and immediately treat those who need care	<input type="checkbox"/>	<input type="checkbox"/>
Identify animals (tag, tattoo, ear notch, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Keep feed and treatment records	<input type="checkbox"/>	<input type="checkbox"/>
Be aware of animal comfort at all stages of production	<input type="checkbox"/>	<input type="checkbox"/>
Use proper techniques for vaccination and treatment	<input type="checkbox"/>	<input type="checkbox"/>
Observe drug residue avoidance rules	<input type="checkbox"/>	<input type="checkbox"/>
Observe label directions including withdrawal times on medications as well feed tags	<input type="checkbox"/>	<input type="checkbox"/>
Sort and load animals safely and with concern for them	<input type="checkbox"/>	<input type="checkbox"/>

(adapted from Iowa State University Extension V1-1042DJH Oct. 1991)

After deciding in which areas you want to improve, list your specific goals for the year.

Goals _____

Questions

Did you accomplish your goals? _____

What worked well? _____

What would you change? _____

Quality Assurance and the Livestock Industry

With your livestock project comes new responsibilities. You are now a member of the livestock industry. The livestock industry, just like any industry, provides a product to the consumer. Even producers of breeding stock are providing seed stock for future food and fiber production.

Think back to some time when you bought a toy or other product and were disappointed in it. Would you buy it again? Consumers will choose to buy or not buy a product from their perception of the value of that product. What would happen to a business if no one purchased its products?

Many businesses have quality assurance departments to make sure that their products are of the highest quality. Businesses pay attention to quality assurance because that helps to assure consumer satisfaction. When quality is high, consumers will buy again. Livestock products must be safe, wholesome, and produced in a manner that meets consumer approval.

Who is in charge of quality assurance in the livestock industry? When you feed a pig and sell it to the market, who is responsible for assuring that the pork eaten by the consumer

is a high-quality product? The retailer? The packer? You? The breeder? **Everyone involved in the livestock industry is obligated to do their part to provide a safe, wholesome product to the consumer.**

Quality assurance in the livestock industry begins with providing the right genetics and continues with the proper husbandry of the live animal, a good packing house, and good retailing. Every action you take as a livestock producer will reflect on the quality of the livestock industry as a whole.

Quality assurance in raising livestock means providing for the animal's needs to produce a healthy, wholesome animal. Basic animal needs include water, food, shelter, and care. Proper attention to animal husbandry helps assure a high-quality, marketable product.

Good animal husbandry requires an understanding of many different sciences, including nutrition, environmental design, genetics, veterinary health, production, and economics. These topics all contribute to a quality livestock product. To learn more, consult your project book, a 4-H advisor, an Extension agent, FFA instructor, a veterinarian, or a livestock production expert.

Evaluating quality assurance of your project is something like looking into a mirror. Reflect on your project for a moment. Do you like what you see? More important, will the consumer like it?

Quality Assurance Factors

Topics Important to Livestock Quality Assurance and the Producer

Nutrition

Essential nutrients, feed and forage analysis, ration balancing

Environmental Design

Space requirements, ventilation, freedom from hazards and injury, feeding systems, handling and loading, feeding facilities, manure handling, image

Genetics

Consumer preferences, producer needs, suitability to livestock production systems

Veterinary Health

Disease prevention, proper drug usage, drug residues and withdrawal times, injection technique, records

Poultry Feed Tag Example

BROILER STARTER MEDICATED

COMPLETE FEED FOR STARTING BROILERS

For the prevention of coccidiosis in poultry flocks; growth promotion and feed efficiency, and improving pigmentation.

ACTIVE DRUG INGREDIENT

Nicarbazin 0.0125%
Bacitracin Methylglucoside 50 G/TON
Roxarsone 0.005% 45.4 G/TON

GUARANTEED ANALYSIS

CRUDE PROTEIN MINI 22.00%
LYSINE MIN 1.13%
METHIONINE MIN 0.54%
CRUDE FAT MIN 3.00%
CRUDE FIBER MAX 5.00%
CALCIUM MIN 0.75%
CALCIUM MAX 1.25%
PHOSPHORUS MIN 0.60%
SALT MIN 0.30%
SALT MAX 0.80%

INGREDIENTS

GRAIN PRODUCTS, PLANT PROTEIN PRODUCTS, ANIMAL PROTEIN PRODUCTS, HYDROLYZED ANIMAL AND VEGETABLE FAT, CALCIUM PHOSPHATE, GROUND Limestone, SALT, METHIONINE SUPPLEMENT, PROPIONIC ACID (ADDED TO RETARD MOLD GROWTH), VITAMIN A ACETATE, VITAMIN D-3 SUPPLEMENT, VITAMIN E SUPPLEMENT, MENADIOL DIMETHYLPYRIMIDINOL BISULPHITE, CHOLINE CHLORIDE, RIBOFLAVIN SUPPLEMENT, CALCIUM PANTOTHENATE, NIACIN, VITAMIN B-12 SUPPLEMENT, PYRIDOXINE HYDROCHLORIDE, THIAMINE MONONITRATE, FOLIC ACID, BIOTIN, ZINC OXIDE, MANGANOUS OXIDE, MANGANESE SULFATE, FERROUS SULFATE, COBALT CARBONATE, CALCIUM IODATE, SODIUM SELENITE.

FEEDING DIRECTIONS

For broilers and fryer chickens only, feed continuously as the sole ration.

SEE BACK OF TAG FOR WARNING

MANUFACTURED BY:
SKILLATHON FEEDS

NET WEIGHT 50 POUNDS (22.7 KILOGRAMS)
OR AS SHOWN ON WHIPPING DOCUMENT
WARNING

Do not feed to laying hens. Withdraw 5 days before slaughter. Use as the sole source of organic arsenic. Feed continuously as the sole ration from the time the chicks are placed on litter until past the time when coccidiosis is ordinarily a hazard; do not use as a treatment for coccidiosis; do not use in flushing mashes.

DO NOT FEED TO CATTLE OR OTHER RUMINANTS.

FEED TAG QUESTIONS

1. What is the main ingredient in this feed?

2. What is the crude protein level?

3. For how many days prior to slaughter should this feed be removed?

4. How many pounds of ingredients are included in this bag?

5. Should this diet be fed to laying hens?

6. What is the crude fat level of this diet?

Treatment Record Factors



Veterinary-Client-Patient Relationship

(VCPR) is established when a veterinarian, who

knows about an animal's health by having seen it or other animals in the same herd, takes charge of the medical decisions about the animal's treatment. The veterinarian has to be available for follow-up, in case the animal does not respond as expected, and the caretaker of the animal has to agree to follow the veterinarian's instructions regarding the treatment program.



Withdrawal Time is the time needed to allow the residue to diminish to a safe tolerance level. It is the period which must elapse after the last treatment and before slaughter of meat animals, the use of milk for human consumption from dairy animals, or use of chicken eggs for human consumption.



Extra-label drug use is using a medication in a way other than that stated on the label by the manufacturer. For instance, using a medication as a treatment for a disease not listed on the label for that type of animal is extra-label use. **Extra-label use**, if not directed by a veterinarian with an established VCPR, is illegal.



Veterinary drugs are available in two categories, **over the counter (OTC)** and **prescription (Rx)**. To be an OTC product, the medication must meet certain criteria for safety to both the animal and the person handling the product. If simple directions can adequately be written on the label by the manufacturer, a product can be classed as an OTC. The OTC medications may be sold through retail outlets such as farm supply stores in the same manner as aspirin is sold at a grocery store.



When human and animal safety, proper diagnosis, and special directions are concerns, medications are classed as prescription (Rx) products. A prescription product can be identified because the exact following statement will appear on the container: *Caution: Federal law restricts this drug to use by or on the order of a licensed veterinarian.* Just as veterinarians are not allowed to authorize extra-label drug use without a valid VCPR, neither are they permitted to prescribe Rx medications for animals where a valid VCPR has not been established. Rx medications are available only from or on the order of a veterinarian much as prescription drugs for people are only available from physicians and from a pharmacist by prescription.

Medication Label

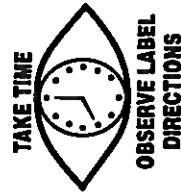
Name of Drug _____ **OMNIBIOTIC** _____
Active Ingredients
(hydrocollin)

Directions for use: See package insert

Cautions and Warnings _____
Warning: The use of this drug must be discontinued for 30 days before treated animals are slaughtered for food. Exceeding the highest recommended dosage level may result in antibiotic residues in meat or milk beyond the withdrawal time.
Withholding Times _____

Store between 2° and 8° C (36° and 46° F) _____
Keep dry and away from light
Storage _____

Quantity of Contents _____ Net Contents: 100 ml
Distributed by
USA Animal Health, Inc. _____
Name of Distributor



LEARNING LABORATORY KIT

Quality Assurance and Animal Care: Youth Education Program
This material is based upon work supported by Extension Service,
United States Department of Agriculture, under special project number 93-EFSQ-4096
Product distribution through the Ohio Agricultural Curriculum Materials Service

Medication Insert

Name of Drug _____ **OMNIBIOTIC**

(hydrocillin in Aqueous Suspension) _____

Active Ingredients

For use in Beef Cattle, Lactating and Non-Lactating Dairy
Cattle, Swine and Sheep _____

Species and
Animal Class

Read Entire Brochure Carefully Before Using This Product

Active Ingredients: Omnibiotic is an effective antimicrobial preparation containing hydrocillin hydrochloride. Each ml of this suspension contains 200,000 units of hydrocillin hydrochloride in an aqueous base.

Approved

Uses _____

Indications: Cattle - bronchitis, foot rot, leptospirosis, mastitis, metritis, pneumonia, wound infections. Swine - erysipelas, pneumonia. Sheep - foot rot, pneumonia, mastitis; and other infections in these species caused by or associated with hydrocillin-susceptible organisms.

Recommended Daily Dosage

The usual dose is 2 ml per 100 lb of body weight given once daily. Maximum dose is 15 ml/day.

Quantity
of Contents _____

{	<i>Body Weight</i>	<i>Dosage</i>
	100 lb	2 ml
	300 lb	6 ml
	500 lb	10 ml
	750 lb or more	15 ml

Continue treatment for 1 to 2 days after symptoms disappear.

Cautions
and Warnings _____

Caution: 1) Omnibiotic should be injected deep within the fleshy muscle of the neck or thigh. Do not inject this material in the hip or rump, subcutaneously, into a blood vessel, or near a major nerve because it may cause tissue damage. 2) If improvement does not occur within 48 hours, the diagnosis should be reconsidered and appropriate treatment initiated. 3) Treated animals should be closely observed for at least 30 minutes. Should a reaction occur, discontinue treatment and immediately administer epinephrine and antihistamines. 4) Omnibiotic must be stored between 2° and 8° C (36° to 46° F). Warm to room temperature and shake well before using. Keep refrigerated when not in use.

Route of
Administration _____

Storage
Requirements _____

Withdrawal/
Withholding
Times _____

Warning: Milk that has been taken from animals during treatment and for 48 hours (4 milkings) after the last treatment must not be used for food. The use of this drug must be discontinued for 30 days before treated animals are slaughtered for food.

Sizes
Available _____

How Supplied: Omnibiotic is available in vials of 100 ml.



LEARNING LABORATORY KIT

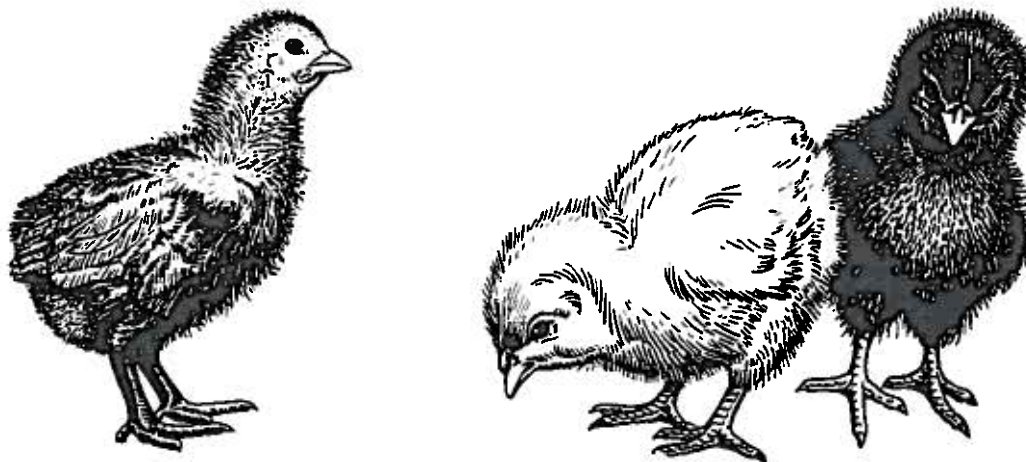
This material is based upon work supported by Extension Service,
United States Department of Agriculture, under special project number
93-EFSQ-4096

Product distribution through the Ohio Agricultural Curriculum Materials Service

Guide to Reading Drug Label on Outside of Container

- ◆ **Active Ingredients:** Chemical name(s) of what is in the drug.
- ◆ **Withholding/Withdrawal Times:** The time it takes for the drug/chemical to be used up by the animal's body after it has been administered (or the time it takes a drug/chemical to wear off). A residue is a substance that remains in an animal's body tissues after the animal has been exposed to that substance. The substance can enter the animal's body as a feed or water additive, as an injection or external treatment, or simply by accident.*
- ◆ **Cautions and Warnings:** Tells things to be cautious about when using the product. Examples: a) Do not give to certain kinds of animals, b) do not give too much, c) pay attention to withholding times (see above).
- ◆ **Storage:** You may not obtain the performance you expect from the drugs and chemicals you have if the expiration date has passed, if the storage temperature is too hot or too cold, or if the products have been exposed to air or light.
- ◆ **Quantity of Contents:** Tells how much is in the container. Usually in metric units [liquid measure: 1 fluid ounce = 29.6 milliliters (ml); dry measure: 1 pint = 551 milliliters (ml)].

* Remember, you are responsible for everything your animal consumes even if it is an accident.



Guide to Reading Medication (package) Insert Label

(sometimes found on outer label)

- ◆ **Species and Animal Class:** The species and animal class in which the drug is to be used.
- ◆ **Approved Uses:** The situation for which the drug is to be used. Indicates the particular type of animal, condition, illness, etc.
- ◆ **Dosage:** How much to give and how often/how many times given.
- ◆ **Route of Administration:** How is the product given to the animal? Basically, there are three routes of administering medications:

1. **Oral Route.** Administering drugs through the mouth. Tablets, pills, capsules, and liquid medications are easily administered orally. A drenching tube, balling gun, or oral dosage syringe is usually used to place the liquid or pill at the base of the tongue at the back of the mouth. Make sure the medication goes down the throat and the animal swallows it. Take care the animal is not choked by the medication going down the trachea (windpipe). You can also administer medication in the animal's feed or water.

2. **Topical Route.** Applying the medication to the skin or to the mucous membranes of the eyes, ears, nasal passages, or reproductive tract. Such medications are available as ointments, aqueous solutions, powders, and aerosols. Do not allow these products to come in contact with the animal's eyes, nose, reproductive tract, or mouth unless it is specifically formulated for that use.

3. **Injectable Route.** Administering the drug directly into an animal's body with a syringe and needle. Injections are the most common method to administer medications. The label will specify which of the following injection methods to use.

Subcutaneous (sub Q) injections are accomplished by inserting the needle just under the skin and **not** into the muscle. This is important because sub Q injectables are designed for a slower rate of absorption or are highly irritating to muscle tissue.

Intramuscular (IM) injections are the most commonly used. This is accomplished by inserting the needle straight into the skin and deep into the muscle.

Intravenous (IV) injections are sometimes used. Some medications are labeled for intravenous injection only, because they are strong irritants to muscle tissue and can cause damage. The IV route of administration provides a rapid means of getting the medication into the system of a sick animal as well as eliminating the chance of tissue damage. IV injections are given directly into the bloodstream.

Treatment Record

TREATMENT DATE & TIME	ANIMAL ID - Name - Species - ID Number - Description	CONDITION BEING TREATED FOR	ESTIMATED WEIGHT	TREATMENT GIVEN (Medication Dispensed, Amount & Route)	INSTRUCTED MILK/MEAT WITHDRAWAL	RESULTS	DATE & TIME WITHDRAWAL COMPLETE	If this is an extra label or Rx drug, list the licensed veterinarian's name address & phone number who prescribed or directed the treatment
Oct 10	Mark Steer #32B Red	Shipping fever	500	Naxcel™, 7cc IM	None	Improved	N/A	Dr. Jones 364 Smith Ave., Columbus, OH 43210 (614)481-1000
Oct 11	Mark Steer #32B Red	Shipping fever retreat	500	Naxcel™, 7cc IM	None	Improving	N/A	Dr. Jones
Oct 12	Mark Steer #32B Red	Shipping fever retreat	500	Naxcel™, 7cc IM	None	Improving	N/A	Dr. Jones
March 3	Kirby Lamb #67 Suffolk	White muscle Disease	40	Bo-Se, 1cc SQ	14 days meat	Walking better	March 17	Dr. Cooper 4682 Hoover Rd., Van Wert, OH 34618 (513)382-0901
August 2, morning milking	R.L. Maggie Holstein #579	Mastitis LF	1300	Cefa-Lak™, 1 tube in LF quarter	96 hours milk	Garget	August 6, evening milking	N/A
August 15	OFL Joyce Hereford Hereford #787	Pinkeye	675	LA-200™, 30cc IM, (3 sites)	28 days meat	Cloudy right eye	Sept 12	N/A
April 30	Victoria Alpine doe kid LE: J 4	Diarrhea	40	Biosol Liquid™, 3cc orally	30 days meat	Watery diarrhea	May 30	N/A
May 1	Victoria Alpine doe kid LE: J 4	Diarrhea	40	Biosol Liquid™, 3cc orally	30 days meat	Soft pellets	May 31	N/A
April 9	Oreo Hog # 37-6 Hamp.	Swollen hocks	200	Tylan 200, 2.5cc IM	14 days meat	unchanged	Apr. 23	Dr. Born 2278 St. Rt. 73, Wren, OH 45177 (419)777-1234
April 10	Oreo Hog # 37-6 Hamp.	Swollen hocks (retreat)	200	Tylan 200, 2.5cc IM	14 days meat	Improved	Apr. 24	Dr. Born
April 11	Oreo Hog # 37-6 Hamp.	Swollen hocks (retreat)	200	Tylan 200, 2.5cc IM	14 days meat	better	Apr. 25	Dr. Born
Nov 15	Jess Arabian Mare	Cut on Neck	1000	Procaine Penicillin™, 20cc IM	N/A	Improved	N/A	Dr. Walker 364 Smith Ave Columbus, OH 43210 (614)481-1000
May 15	20 white Leghorn	Air Saccuclitis	N/A	Superbiotic, 1 packet/ 10 gal.	5 days	N/A	May 20	N/A

YOUTH QUALITY ASSURANCE MEDICINE LABEL/TREATMENT RECORD ACTIVITY SHEET (POULTRY)

Today is May 12. You notice several of the flock of 20 White Leghorn pullets you purchased 3 weeks ago have a discharge today from their nostrils, watery eyes and are coughing. These are the only chickens you have. The flock did not eat nearly as much feed the past day as usual. Because you could tell your chickens are sick, you take two to the local veterinarian for diagnosis and treatment of the illness. The veterinarian diagnoses the condition as a respiratory infection called air sacculitis and tells you that, while he does not carry the needed medication, *Superbiotic™*, it is available as an over-the-counter (OTC) drug at the nearby farm supply center. He tells you to medicate the chickens' drinking water starting today, continue for a total of 4 days, and replace the medicated water with clear water on the morning of May 16th. The label on the packet of medication can be seen below. Complete the treatment record for May 15 showing the medication of the drinking water.

PACKET LABEL

Superbiotic

(10% Hydrocyclyne Tartrate)

A broad spectrum antibiotic for oral administration in the treatment and prevention of respiratory diseases of poultry caused by susceptible bacteria.

Directions: Mix the contents of this packet in 10 gallons of drinking water. This medicated drinking water should be the sole source of drinking water during the period of medication which must not exceed 14 days.

WARNING: Discontinue use in poultry 5 days before slaughter.

Store below 77°F. Keep packet dry.

Net Contents: 25 grams

Distributed by USA Animal Health, Inc.

MAY						
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

TREATMENT RECORD

Treatment Date & Time	Animal ID • Name • Species • ID Number • Description	Condition Being Treated For	Estimated Weight	Treatment Given (Medication Dispensed, Amount and Route)	Instructed Milk/Meat Withdrawal	Results	Date & Time Withdrawal Complete	If this is an extra label or Rx drug, list the licensed veterinarian's name, address & phone number who prescribed or directed the treatment.
			X			X		

X= This information was not supplied in the situation, therefore you do not need to complete this box.

YOUTH QUALITY ASSURANCE MEDICINE LABEL/TREATMENT RECORD ACTIVITY SHEET (POULTRY)

ANSWER KEY

TREATMENT RECORD							
Treatment Date & Time	Animal ID • Name • Species • ID Number • Description	Condition Being Treated For	Estimated Weight	Treatment Given (Medication Dispensed, Amount and Route)	Instructed Milk/Meat Withdrawal	Results	Date & Time Withdrawal Complete
May 15	20 white Leghorn Pullets	Air Sacculitis	X	Superbiotic 1 packet/10 gallons of drinking water	5 days	X	May 20
							If this is an extra label or Rx drug, list the licensed veterinarian's name, address & phone number who prescribed or directed the treatment. (This block should be left blank or indicate that no extra-label or Rx drug was given.)

X = This information was not supplied in the situation, therefore you do not need to complete this box.

Explanation of the answers for the treatment record:

Treatment date: MAY 15 — The directions tell the participant to fill out the treatment chart for "May 15th showing the medication for the drinking water." The treatment period starts on May 12 and continues for 4 days. The medication period will extend until the medicated water is removed on the morning of May 16th. We would expect the producer to update the treatment chart tomorrow with the information for May 16 recording the time medicated water is actually removed.

Animal ID: 20 White Leghorn pullets — In a small flock like the one described, the chickens often are not individually identified. The medication was administered to the entire group so the group can be described. If there were more than one group on the farm, an additional identifier, such as the location, would be appropriate.

Condition being treated: Air Sacculitis — This is the problem as diagnosed the veterinarian. While less specific, "respiratory disease" could also be an acceptable answer.

Estimated weight: This information was not given in the problem and hence can't be answered.

Treatment given: Superbiotic, 1 packet per 10 gallons of drinking water — Other acceptable answers could include Hydrocycline tartrate in place of Superbiotic, 25 grams in place of 1 packet.

Instructed Withdrawal: 5 days — This is stated in the WARNING section of the medication label.

Date Withdrawal Complete: May 20 — For the medication the chickens receive on May 15 (the day for which the Treatment Record was filled in), the withdrawal period would be completed on May 20. Following the last of the medicated water on May 16, the date completed would be May 21. The owner should update the treatment record on a daily basis as the treatment period continues. The time withdrawal is completed would be the same hour as when the medicated water was removed on May 16.

If this is an extra-label or Rx drug: This block should be left blank or should indicate no extra-label or Rx drug given. While the owner had consulted the veterinarian, the veterinarian directed the use of an OTC product in a way consistent with the label directions; therefore, credit can be given for an empty square. The problem did not give the veterinarian's name nor does it appear on the label of the product. Producers should write down all treatments given to their food-producing animals and poultry, not just the one prescribed by veterinarians.

Questions

1. What are special quality assurance issues that relate to your project? _____

2. Why is it important that your animal be permanently identified? _____

3. What is the difference between a prescription and over-the-counter medication? _____

4. What is extra-label drug usage? When is it allowed? _____

5. What is a medication withdrawal time? Why is it important? _____

6. Explain what is meant by a Veterinarian Client Patient Relationship (VCPR). _____

7. What information should be recorded when an animal is given medication? _____

8. How do you think the consumer would view the way your project is housed? Fed? Handled?

Show Ring Ethics

One of the most visible components of 4-H is livestock shows. Much of the public's contact with 4-H is at the county fair where show ring events draw large crowds. What the audience sees reflects on the total 4-H program and the entire livestock industry. How are you contributing to that image?

The desire to win at any cost has tarnished the record of 4-H members personally and livestock shows in general. Why have YOU chosen to show an animal? What motivates some to act dishonestly in the show ring?

Competition, if you keep it in perspective, can be a positive tool to help develop important skills in your life. Many 4-H alumni who showed animals during their 4-H years attribute successes in their careers to the diverse skills gained as a 4-H member. You use decision-making skills and critical thinking techniques to select your animal and choose a feeding program. Answering the judges' questions in a confident manner helps you gain poise, which is beneficial in many other situations. Good sportsmanship is a characteristic we all need. Certainly self-esteem is affected in the show ring when people watch and applaud your performance!

Is your only goal to win—or do you want to get more out of it than that? Your ability to think while paying attention to the judge, your animal, and other exhibitors is an important skill. Keeping a level head and staying composed will be good practice for other challenges in your life. Many long lasting friendships are developed from showing animals.

Proper training of your animal for the show ring should only include techniques that offer no risk of injury or pain to the animal. If a TV camera was present when you were working with your animal, would you do anything differently than you normally do? Putting in many long hours of practice with your animal is the only way to achieve that

polished, confident look with the animal giving complete response to your commands.

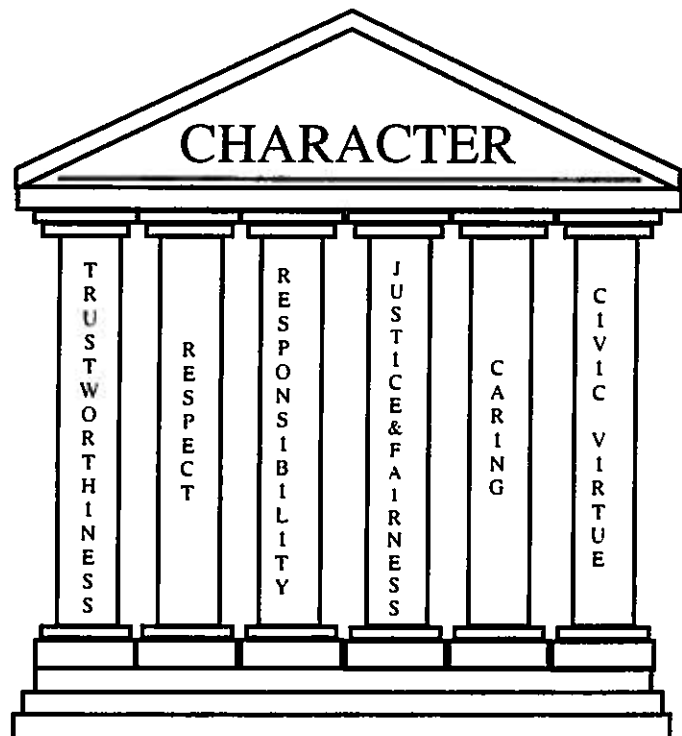
The effects of unethical practices on animals can be harmful or even fatal. If your animal goes to slaughter and residues are found in the tissue, the animal will be rejected. How does this reflect on you and the animal industry?

Even if you do win, your moment in the spotlight with a champion is short lived. Think about what will stay with you after the thrill of winning has worn off. What image of the meat industry did consumers perceive while watching you present your animal?

Using unethical techniques to train, feed, or show your animal is wrong. If you see it happening, don't turn your back. Tell a committee member or show official.

Pillars of Character

- ◆ Trustworthiness
- ◆ Respect
- ◆ Responsibility
- ◆ Justice and Fairness
- ◆ Caring
- ◆ Civic Virtue and Citizenship



Source: Josephson's Institute of Ethics

Questions

1. List the six pillars of character. _____

2. List some proper techniques that you can use to prepare your animal for the show ring. _____

3. a. What have you seen or heard about that you think was an unethical practice in relationship to showing an animal? _____

- b. Why do you feel that it might have been wrong? _____

4. List the benefits you have gained from your past show ring experiences. _____

5. Describe what you feel is appropriate behavior when you win. What behavior is appropriate when you don't place where you had hoped? _____

6. Can you be a "winner" showing an animal without getting a purple or blue ribbon? What are your reasons? _____

7. What are some ways to recognize exhibitors for skills gained other than winning in the show ring? _____

Ohio Farm Animal Care Commission

a vital part of the Ohio Livestock Coalition

P.O. Box 479, Two Nationwide Plaza, Columbus, OH 43216-0479

614/249-2435

FAX 614/249-2200



Policy Statement

The Ohio Farm Animal Care Commission (OFACC) was organized in 1990 to provide leadership on matters related to farm animal care. In 1997 the organization changed its name to the Ohio Livestock Coalition (OLC) to provide leadership and lend support to the recommendations made by the Ohio Livestock Industry Task Force which released its report in late 1996. The Ohio Farm Animal Care Commission was then designated as a vital part of the Ohio Livestock Coalition.

The commission has dedicated itself to the promotion of sound animal husbandry practices in the care and efficient production of animals used for food and fiber. The use of proper animal husbandry practices minimizes stress, improves animal efficiency and profitability for the farmer, and ensures a safe, healthy, and wholesome product to the consumer at a reasonable price.

The Ohio Farm Animal Care Commission believes animals play a vital part in human existence and therefore, deserve our protection and compassion. Humans have had an inseparable relationship with animals and nature, as people have served as their sole caretakers for centuries. Yet, humanity is answerable to another set of laws and concepts that is uniquely a product of human society. Animals cannot be made subject to the laws that we as human beings are governed by and therefore, do not have the rights of humans.

The Ohio Farm Animal Care Commission firmly believes that all animals use other animals for their existence. Thus, the responsible use of animals by humans is natural and appropriate.

The Ohio Farm Animal Care Commission believes that farmers take pride in their responsibility to provide proper care for their animals and endorse the following Code of Practices.

Code of Practices

The following describes general responsibilities of the farmer and all persons in their authority, in the proper care and handling of animals raised for food and fiber.

- ◆ To provide food, water, and care necessary to protect the health and welfare of my animals.
- ◆ To provide a safe and healthy environment for my animals that is clean, well ventilated, and provides ample space.
- ◆ To provide a well-planned disease prevention program to protect the health of my herd or flock. This includes a strong veterinarian/client relationship.
- ◆ To use humane and sanitary methods when it becomes necessary to dispose of my animals.
- ◆ To make timely inspections of all animals to evaluate the health and ensure that all basic requirements are being met.
- ◆ To ensure proper handling techniques are used to eliminate any undue stress or injury when manual manipulation is necessary.
- ◆ To provide transportation for my animals that avoids undue stress or injury caused by overcrowding, excessive time in transit, or improper handling when loading or unloading.
- ◆ The willful mistreatment of my animals or the mistreatment of any animal will not be tolerated. In cases of mistreatment, I will notify the proper authorities.
- ◆ To make management decisions based on scientific fact and to consider the welfare of my animals.
- ◆ We encourage livestock producers to complete species-specific quality assurance programs.

Notes

Notes

Notes

Feed Tag

YEAR _____

It is important for every producer to know what they are feeding.

ATTACH ONE FEED TAG, SUPPLEMENT TAG OR FEED MIX RECEIPT TO THIS PAGE FROM RATIONS YOU FED DURING YOUR PROJECT.

The 4-H Pledge



I pledge
my head to clearer thinking,
my heart to greater loyalty
my hands to larger service, and
my health to better living,
for my club, my community,
my country and my world.
