STATE 4-H OFFICE FILE COPY

4-H 168

Project Manual ONLY

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Duck or Goose

[redacted]

MA2102

Obtain and complete this book each year a waterfowl project is taken.

Name _____ Date of Birth _____

Age (as of January 1 of the current year) _____ Years in the 4-H Waterfowl Project ___

Address _____

County Name _____

4-H Club _____

4-H Advisor _____

Date started: Date Completed:

Month/Day/Year _____ Month/Day/Year _____

I hereby certify that, as the 4-H member completing this project, I have personally kept records on this waterfowl project and have personally completed this project and record book.

_____

Signature

THE OHIO STATE UNIVERSITY EXTENSION

Duck or Goose Project and Record Book

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Table of Contents

Are you ready to begin your duck or goose project? The activities in this book will challenge you to explore areas of duck or goose production and animal agriculture. The activities will also test the knowledge that you have gained by studying the information provided.

YOUR PROJECT HELPER

Before you begin your project, you should select a project helper. Your project helper can be a parent, project leader, club advisor, or an older friend who knows about the poultry industry. Your project helper is someone who can help you if you have difficulty understanding or completing an activity. Your project helper can also help you find more information about an area of the project in which you are very interested. After you complete the activities in your project and record book, review the activities with your project helper. Discuss what you did and what you have learned.

Write the name and phone number of your project helper here:

Name _____

Phone _____

A Special Note About Completing This Book

The cover of this Project and Record Book should be completed in ink. All other activities in this book should be completed in pencil.

As you complete this project and record book, we challenge you to:

- Do your best to answer the questions and complete the activities.
- Think about the ways in which the knowledge you have learned applies to the way that you care and manage your duck or goose.
- Work with a project helper to complete the activities in this book. Remember that your project helper is a valuable resource person.
- Look beyond the project book to explore areas of the project that interest you. You can find more information about particular topics from:
  - Magazines
  - Books
  - Marketing or commodity groups
  - Breed associations
  - Local Extension office
  - Internet (always ask an adult to help you with Internet searches)

Your project helper will also be able to assist you in finding more information.

Your Project Level

Before your begin the activities in this project and record book, you need to find out which project level is designed for you. There are three project levels.

- **Beginning** activities are for project members in grades 3, 4, and 5 or in their first, second, or third years of the project.
- **Intermediate** activities are for project members in grades 6, 7, and 8 or in their fourth, fifth, or sixth years of the project.
- **Advanced** activities are for project members in grades 9 and beyond or in their seventh through eleventh years of the project.

To meet the requirements for this project you are not required to complete activities that are labeled as "Optional" for your project level. However, you are encouraged to try optional activities that interest you.

Project Guidelines

1. Obtain your project birds by the required (possession) date for your county. Contact your county Extension office for this date.

2. Complete the activities in this project and record book.

3. Take part in a project review at a club meeting or at the county level. This project review can take place with your parent, club advisor, or project helper. Members who take part in this type of evaluation can receive one of Ohio's 4-H Project Achievement certificates. These are awarded based upon the member's level of involvement in the project (beginning, intermediate, advanced) and if the member has met the minimum completion requirements for the project.

4. Take part in county project judging (this may be optional—check with your county's guidelines). This type of judging is usually referred to as a skillathon or interview judging. It determines how well you did on your project by assigning a project grade or score. An "Outstanding" rating may be given for achieving a set standard for your age group in your project area, or you may be recognized for meeting your own personal project goals. Check with your county Extension office for requirements regarding county project judging.

The required date of possession of my project animals for my county is:

Beginning Level

DO THREE OR MORE

Members should choose 3 different activities each year this project is taken. Members should choose different activities each year the project is taken. Have an adult initial and date the activities you complete. Other activities are acceptable, but check with your club advisor before completing them. This level is designed for members in grades 3, 4, and 5 or in the first three years of the project. Members may advance to the next level after completing a total of 9 activities, or reaching the appropriate grade level.

Plan to Do	Completed (Initial and date)	Project Activities
_____	_____	1. Identify and describe four breeds of ducks or geese and tell at least two characteristics of each, including their origin.
_____	_____	2. Identify and locate 10 to 15 external parts of the waterfowl.
_____	_____	3. Attend a poultry husbandry clinic and tell what you learned.
_____	_____	4. Invite someone to talk to your 4-H club about waterfowl.
_____	_____	5. Learn and practice the steps to properly handle a duck or goose and demonstrate these.
_____	_____	6. Meet with someone who is more experienced with waterfowl to learn about husbandry or showmanship.
_____	_____	7. Describe how you would select a good quality duck or goose.
_____	_____	8. Exhibit your ducks or geese at the county fair.
_____	_____	9. Read a label from a commercially prepared feed and identify five of the ingredients.
_____	_____	10. Explain sportsmanship and how it applies to your animal's project.
_____	_____	11. Describe how you provide adequate shelter for your animals.

Intermediate Level

DO FOUR OR MORE

Members should choose 4 different activities each year this project is taken. Members should choose different activities each year the project is taken. Have an adult initial and date the activities you complete. Other activities are acceptable, but check with your club advisor before completing them. This level is designed for members in grades 6, 7, and 8 or in the fourth, fifth, or sixth year this project is taken. Members may advance to the next level after completing a total of 12 activities, or reaching the appropriate grade level.

Plan to Do	Completed (Initial and date)	Project Activities
_____	_____	1. Describe the ideal duck or goose according to the American Standard of Perfection for the breed you have, using the correct terminology.
_____	_____	2. Teach club members the parts of a duck or goose by playing a game: draw the animal on a poster board and number the parts. Call out a number and point to a member. Ask the 4-H member to name the numbered part.
_____	_____	3. Visit the county Extension office or local library to get a copy of American Standard of Perfection.
_____	_____	4. Show a younger member where all of the parts are located on a live duck or goose.
_____	_____	5. Visit a local feed store and compare the feed analysis of three different types of poultry feed.
_____	_____	6. Visit a waterfowl processor to learn about processing.
_____	_____	7. Learn how people in other cultures use waterfowl products for food.
_____	_____	8. Teach a younger 4-H member how to read a feed tag.
_____	_____	9. Study the embryonic development of a bird during incubation.
_____	_____	10. Learn how to sex waterfowl.
_____	_____	11. Invite a feed company representative to your 4-H club to talk about poultry nutrition.
_____	_____	12. Judge a class of ducks or geese and place it according to the standard for that breed.
_____	_____	13. Build a carrying cage for your waterfowl.
_____	_____	14. Prepare a meal that includes a duck or goose.
_____	_____	15. Explain sportsmanship and ethics as they are related to the poultry industry.

Advanced Level

DO FIVE OR MORE

Members should choose 5 different activities each year this project is taken. Members should choose different activities each year the project is taken. Have an adult initial and date the activities you complete. Other activities are acceptable, but check with your club advisor before completing them. This level is designed for members in grades 9 and higher, or in the seventh through eleventh year this project is taken. Members may advance to the next level after completing a total of 9 activities, or reaching the appropriate grade level.

Plan to Do	Completed (Initial and date)	Project Activities
_____	_____	1. Visit a breeder to discuss his or her breeding program and observe the results.
_____	_____	2. Help organize a poultry showmanship clinic and/or contest.
_____	_____	3. Help a new 4-H member select a duck or goose for his or her project.
_____	_____	4. Design a new skillathon station for members taking poultry.
_____	_____	5. Identify the feed ingredients listed on your feed tag and classify them as to their primary uses: protein, minerals, carbohydrates, fats, vitamins, or water.
_____	_____	6. Construct a cage or pen for your poultry project.
_____	_____	7. Teach poultry showmanship at a clinic.
_____	_____	8. Develop cost comparisons of various commercial poultry feeds.
_____	_____	9. Learn about five or more careers associated with the poultry industry.
_____	_____	10. Develop at least three quality assurance activities for your county's poultry program.
_____	_____	11. Spend a day with someone in a career associated with the poultry industry.
_____	_____	12. Teach someone how to sex waterfowl.
_____	_____	13. Give either a speech or demonstration on how to select good breeding stock.
_____	_____	14. Develop a breeding, show, and marketing plan for your ducks or geese.
_____	_____	15. Present a program on sportsmanship and ethics as related to poultry projects to your 4-H group.
_____	_____	16. Teach a new member some basic information about the principles of genetics. Document what the 4-H member learned.
_____	_____	17. Select one or more topics about your waterfowl project and prepare a display to exhibit at your club meeting, a clinic, and/or the county fair.
_____	_____	18. Develop a glossary of genetics terms and their definitions. Examples include genetics, heredity, genes, genotype, phenotype, and alleles.

DO THREE OR MORE

Participate in at least three structured Learning Experiences (listed below) and plan your involvement in the Report of Learning Experiences chart below.

Before starting your project, enter your choices under "Plan to Do." Once you have participated in an activity, record what you did and when. Learning experiences may be added or changed at any time.

- Attend a poultry show at your state fair. See how many waterfowl breeds you can find and identify.
- Attend a meeting where a feed company representative or other nutrition specialist talks about poultry nutrition.
- Read a book about waterfowl and give a report to your 4-H club.
- Visit a commercial hatchery.
- Attend an area or statewide poultry school/clinic.
- Interview and spend a day with someone with a career in agriculture.
- Attend a sanctioned state or national poultry show.
- Participate in a skillathon.
- Participate in a poultry showmanship clinic.
- Participate in a quality assurance training program.
- Show your waterfowl at the state fair.
- Attend the poultry show in another county.
- Spend a day with a poultry judge as he or she judges the show.

Report of Learning Experiences

Plan to Do	What I Did	Date Completed
Exhibit at the state fair	Exhibited 2 Pekin ducks and participated in poultry skillathon	*August 2*

DO TWO OR MORE

Check the Leadership and Citizenship activities you plan to do, or write your own in the space provided. Plan to do at least two activities. These may be added or changed at any time. Keep track of your progress by recording the date that you complete each activity.

Plan to Do	Completed (Initial and date)	Activities
_____	_____	1. Lead the Pledge of Allegiance at a 4-H meeting.
_____	_____	2. Lead a song or game at a 4-H meeting.
_____	_____	3. Lead the 4-H Pledge at a 4-H meeting.
_____	_____	4. Write a news story for a local paper.
_____	_____	5. Participate in a radio or television program.
_____	_____	6. Give a presentation to a group other than your 4-H project group or club.
_____	_____	7. Serve as a host for a 4-H meeting.
_____	_____	8. Participate in a community service project.
_____	_____	9. Talk with your 4-H agent about assisting with an incubation project in a school.
_____	_____	10. Serve as the chair of a committee.
_____	_____	11. Serve as a project Junior or Teen Leader for two or more younger members, on a regular basis, for at least six months.
_____	_____	12. Serve as a Junior or Teen Leader in your countywide Junior/Teen Leadership Club.
_____	_____	13. Attend a leadership conference/camp (4-H Youth Expo, Buckeye Leadership workshop, State 4-H Leadership Camp, Ohio Jr. Fair Conference, etc.)
_____	_____	14. Serve as a clerk or chairperson at a 4-H show.
_____	_____	15. Serve as a camp counselor.
_____	_____	16. Attend 4-H camp.
_____	_____	17. Secure a speaker for your club or project meeting.

Leadership and Citizenship Activities

Plan to Do	Completed (Initial and date)	Activities
_____	_____	18. Help plan or conduct a quality assurance program.
_____	_____	19. Serve as an officer for your 4-H club.
_____	_____	20. Help plan and conduct a skillathon.
_____	_____	21. Help plan and conduct a judging contest.
_____	_____	22. Help at a club or county fund-raising activity.
_____	_____	23. Prepare a window display during the National 4-H Week.
_____	_____	24. Help bring some joy to a shut-in, a hospital patient, an elderly person, etc. Here are some ideas: make a telephone call, send a card or letter, prepare a tray favor, visit, read to, take a gift, put on a skit, or play a game with someone.
_____	_____	25. Do something to improve your neighborhood.
_____	_____	26. Teach someone how to show his or her project animal.
_____	_____	27. Serve on a 4-H community club or project club committee for planning and conducting a club activity (booth, training workshop, clinic, etc.)
_____	_____	28. Actively serve on a county or state committee.
_____	_____	29. Develop your own activity with your leader's approval. Describe it below.

Modify or add your own activities here:		

Origins

Ducks

Most of the breeds of ducks that are domesticated are thought to be close relatives of the Common Mallard, one of seven sub-species of wild mallard ducks that live on the continents of Europe, Asia, and North America. The male of the Common Mallard has a distinctive green color on its head, with a ring of white feathers on its neck and distinctive markings on its wings. Females have a more drab appearance. The color pattern of the wild Common Mallard is comparable to the domesticated Gray Mallard. Selection for different characteristics has resulted in the various breeds.

A duck that is seen less often is the Muscovy. It originally was from South America. Most ducks have a head that is covered with feathers, but Muscovy Ducks have heads that are covered by wrinkly skin. Some other differences are that Muscovy eggs take about a week longer to hatch, they make their nests in trees, they take twice as long to reach mature body weight, and they are leaner than other ducks. Muscovy ducks can mate with descendants of the mallard, but the resulting ducks cannot reproduce. As a result, they are sometimes called mule ducks.

Geese

Domesticated geese are thought to result from one of two wild ancestors. The Greylag Goose is native to northern Europe and western Asia. It has a chunky, compact appearance, with a plumage color and pattern that is similar to the Toulouse Goose. In the wild, a strong bond is formed between a male (gander) and a female (goose) before producing young. The goose normally lays five to six eggs before incubating them for 30 days.

The Swan Goose is thought to be the ancestor of the other branch of domestic geese. Their home of origin is Asia, and a few Greylag and Swan Geese share the same habitat. The Swan Goose looks slightly different because of a longer neck and a prominent knob where the bill joins the head. Brown Chinese Geese have the same color pattern as the Swan Goose. The African Goose, which has the same color pattern, probably is a descendant of the Swan Goose.

Categories of Waterfowl

Waterfowl are organized into categories by class, breed, and variety. A class categorizes birds by weight. A breed is based on the type of the bird. One characteristic of type is whether it is large or small. Another example of type is whether its posture is more horizontal or vertical. Varieties are based on the different color patterns in a breed.

Ducks

Breeds in the heavy class are Appleyard, Aylesbury, Muscovy, Pekin, Rouen, and Saxony (Table 1). The mature Muscovy drake (male) weighs approximately 12 pounds, and the duck (female) weighs about 7 pounds. For all other breeds, males weigh about 9 to 10 pounds and females weigh about 8 to 9 pounds. The main use of ducks in this class is for meat production.

Ducks in the medium class weigh less than those in the heavy class. Blue Swedish, Buff, Cayuga, and Crested are breeds that are in the medium class. Mature drakes weigh about 8 pounds, and ducks weigh about 7 pounds, although the Crested are slightly smaller.

Ducks in the light class are the smallest of the standard size ducks. Mature drakes weigh about 4.5 pounds, and ducks weigh about 4 pounds. Breeds of light ducks are Runner, Campbell, and Magpie. Most of the ducks in this class were bred as good egg producers.

The bantam class includes breeds that are smaller than those listed above. Call, East Indie, and Mallards are breeds that are bantams. The Mallards are larger than the other breeds in this class, with drakes at 40 ounces and ducks at 36 ounces. Mature East Indie drakes should weigh 30 ounces and ducks should weigh 24 ounces. Weights for the Call breed are 26 ounces for drakes and 22 ounces for ducks. Sometimes the ducks in this class are called ornamental ducks.

TABLE 1. Breeds and varieties of ducks.[1]

Class	Breed	Variety	Photograph[2]
Heavy Weight	Appleyard	Silver	X
	Aylesbury	White	X
	Muscovy	Black	
		Blue	
		Chocolate	
		White	X
	Pekin	White	X
	Rouen		X
	Saxony		X
Medium Weight	Cayuga	Black	X
	Crested	Black	
		White	X
	Swedish	Blue	X
	Buff	Buff	X
Light Weight	Runner	Black	
		Buff	
		Chocolate	
		Cumberland Blue	
		Fawn and White	
		Gray	
		Penciled	X
		White	X
	Campbell	Khaki	X
	Magpie	Black and White	
		Blue and White	X
Bantam	Call	Blue	
		Buff	
		Gray	X
		Pastel	
		Snowy	X
		White	X
	East Indie	Black	X
	Mallard	Gray	X
		Snowy	

[1]*From American Standard of Perfection*
[2]*Photograph is included in this project and record book.*

Geese

Geese are also divided into classes by weight (Table 2). In the heavy class, a mature gander weighs 22 to 26 pounds, depending on breed, and a mature goose weighs 18 to 20 pounds. Geese in the heavy class are African, Embden, and Toulouse. In the medium class, a mature gander weighs between 14 and 18 pounds, while a mature goose weighs between 12 and 16 pounds. Each breed has its own ideal weight. American Buff, Pilgrim, Pomeranian, and Sebastopol Geese are included in this class. The light class includes Canada, Chinese, Egyptian, and Tufted Roman Geese. Egyptian Geese are very small, with weights of 4 to 6 pounds. Other geese in the class have mature ganders that weigh about 12 pounds and mature geese that weigh about 10 pounds.

Choosing a Project and Selecting a Bird

Ducks

Part of the 4-H project is showing your ducks and competing in your county fair. An important decision is if your ducks will be in the meat-bird competition or in the purebred competition. If you want to compete with meat birds, you need to select a breed from the heavy class. Most 4-H projects use Pekins, but Aylesbury and Rouen are also possibilities. The quality of a meat duck depends mostly on the amount of meat each one carries. Those with long, wide, deep breasts and muscular legs are most desirable. The usual number to show is two, so uniformity is important. Selecting two very good birds is better than selecting one excellent and one good bird. Less important factors are the condition of feathers and cleanliness, but these may become deciding factors if meat quality is equal. Heavy breeds are usually at their best for show at about 8 weeks of age. As part of the meat-bird show, these ducks may be sold at auction.

All breeds of ducks can be shown in the purebred competition. To assist the evaluation and judging, birds of similar characteristics are grouped together in classes. The classes are usually based on the classes described earlier in the section on Categories of Waterfowl but may differ somewhat at each show. Classes may be based on one or more of the following: breed, purpose, sex, or age. In this competition, the judge is looking for the ideal duck in that breed, as described in the American Standard of Perfection. The scale of points that is used to decide which duck is closest to ideal is given in Table 3. In this competition, the appearance of the duck is more important than how much meat it has. There are some defects that are considered so serious that a duck may be disqualified. Examples are problems with feather color or bill color. The Standard of Perfection lists disqualifications for each breed. Other defects detract from perfection, as indicated in the scale of points. In this kind of competition, you first compete against those with the same breed of duck, if there are enough participants, to decide which duck is closest to perfect when compared to its standard. Most competitions will eventually select a champion of the show, which is the bird that is thought to be closest to perfection for its breed.

Competition at the county fair or at other shows is important for some 4-H participants but not very important for others. Some people just like to keep birds as pets, so colors or other characteristics may be very important. Descriptions in the American Standard of Perfection and pictures in this project and record book may be helpful in making your selection.

Ducks can be noisy, and this can cause problems with nearby neighbors. Females make most of the noise with their loud quack, but males are not able to make much noise and are said to whisper. Call ducks can be especially noisy and troublesome. Muscovy ducks do not quack.

Geese

When judging geese in a meat competition, the bird with the most meat is the best. The breast should be broad, deep, and full. Leg bones should be of medium length, but strong and well covered with flesh. The body should be long, broad, and deep.

TABLE 2. Breeds and classes of geese.[1]

Class	Breed	Variety	Photograph[2]
Heavy	African	Brown White	X
	Embden (Emden)	White	X
	Toulouse	Buff Gray	 X
Medium	American Buff	Buff	X
	Pilgrim	Gray female White male	X X
	Saddleback Pomeranian	Buff Gray	 X
	Sebastopol	White	X
Light	Canada	Eastern (Common)	
	Chinese	Brown White	X
	Egyptian	Colored (Brown)	X
	Tufted Roman	White	X

[1]From American Standard of Perfection
[2]Photograph is included in this project and record book.

TABLE 3. Scale of points for judging ducks.[1]

Criterion judged	Points allotted if duck is:			
	White		Other than white	
	Shape[2]	Color[3]	Shape[2]	Color[3]
Symmetry	4		4	
Weight	4		4	
Condition and vigor	10		10	
Bill	3	3	3	3
Eyes	2	2	2	2
Head	4	2	4	2
Neck	3	3	3	3
Back	8	4	6	6
Tail	2	2	2	2
Wings	5	3	4	4
Breast	12	4	10	6
Body	12	4	10	6
Legs and feet	2	2	2	2
Total	**71**	**29**	**64**	**36**

[1]*From American Standard of Perfection*
[2]*Shape of body part.*
[3]*Color of body part.*

When judging geese in a purebred competition, the factors in Table 4 indicate the importance attached to each criterion. There are also defects that are considered so serious that a bird will be disqualified from competition. Examples are problems with feather color, color of the bill and eyes, and presence or absence of dewlap and knob. If the bird does not have disqualifications, it is compared to others in its class in relation to the ideal goose for that breed.

Buying Waterfowl

Newly hatched ducks and geese are available from local hatcheries and from hatcheries that sell nationally. Information on contacting them is in Table 5. These sources are appropriate for meat-type ducks and geese and average quality purebred stocks.

If you are interested in buying the quality of bird that will be competitive in open shows (those that any competitor can enter), you will need to be more selective. Attend the state fair to see whose birds are the best in the state. Many states also have an open poultry show at some other time in the year. Ask the superintendent or organizer of these events for suggested suppliers of the birds you would like to buy. Contact them and get to know them before buying. Other sources of information are Poultry Press (Connersville, IN; www.poultrypress.com) and Society for Preservation of Poultry Antiquities (Glenn Drowns, Calamus, IA; www.feathersite.com/Poultry/SPPA/SPPA.html)

TABLE 4. Scale of points for judging geese.[1]

Criterion judged	Points allotted if goose is:			
	White		Other than white	
	Shape[2]	Color[3]	Shape[2]	Color[3]
Symmetry	4		4	
Weight	4		4	
Condition and vigor	10		10	
Bill	4	2	4	2
Eyes	2	2	2	2
Head	6	2	4	4
Neck	7	3	6	4
Back	7	3	6	4
Tail	3	1	1	3
Wings	6	4	4	6
Breast	10	4	9	5
Body	10	3	8	5
Legs and feet	2	1	2	1
Total	75	25	64	36

[1]*From American Standard of Perfection*
[2]*Shape of body part.*
[3]*Color of body part.*

TABLE 5. Sources of hatching eggs or newly hatched birds.

Eagle Nest Poultry Box 504 Oceola, OH 44860 (419) 562-1993	Murray McMurray Box 458 Webster, IA 50595 (800) 456-3280 www.mcmurrayhatchery.com
Ridgway Hatchery 615 N. High Street LaRue, OH 43332 (740) 499-2163	Strombergs Box 400 Pine River, MN 56474 (800) 720-1134

Ducks

When ducklings hatch, the first requirement is heat. They should be kept in surroundings that are at least 95°F. The ideal situation is to have a heater or heat lamp in one part of the pen. Close to the heat source, it may be warmer than 95°F. If the ducklings are cold, they move toward the heat source. If they are hot, they move away from the heat source. The pens should be big enough so that the ducklings can make themselves comfortable, but small enough to keep the ducklings near the heat, feed, and water. Decrease the brooder temperature by 10°F per week following the first week.

The requirement for heat decreases quickly for the large breeds of ducks. By 21 days, they are comfortable at a temperature of 65°F. When they are covered with feathers and down, they grow well at a temperature of 55°F.

Large breeds of ducks that are mature may become too warm at temperatures above 80°F. Being able to splash and swim in water makes it easier for them to be comfortable on hot days. Ducks other than the heavy breeds may need slightly different temperatures. They may be comfortable at slightly higher temperatures when they are young and also when they are mature.

Most ducks are grown on the floor. If they are kept in a building all of the time, it is referred to as confinement rearing. Ducks that don't have parents to watch over them should be kept in confinement until they are several weeks old. Then they can be released into an outside pen during the day if the weather is nice, beginning the third week.

The floor of the ducks' pen should be covered with bedding, usually called litter. Litter protects the ducklings from hard floors and also helps keep the pen clean and dry. Materials like wood shavings or straw can be spread on the floor thick enough to completely cover the floor. If the litter becomes wet or dirty to the point that ducklings cannot stay clean, add more litter or remove the old litter before replacing it. Also, change the litter if the air starts to smell bad.

Ducks need more space as they grow. When they are one day old, each duckling should have at least 0.5 square feet of floor space. By the time they are seven weeks old, they should have 3 square feet of space. The amount of space they need increases by about 0.5 square feet per week. This is for ducks that weigh 6 to 8 pounds at seven weeks. Smaller ducks won't need quite as much space.

Ducks can also be grown on wire floors until they are about five weeks old. The wire should be no larger than 1 inch X 1 inch squares. Plastic-covered wire is preferred, but galvanized wire is acceptable if it does not have sharp edges. If older ducks are kept on wire, they may develop infections because of irritations to the bottom of their feet.

Ducklings that are one day old are fairly easy to start on feed and water. Use duck starter feed that is in pellets, 1/8 inch or 3/16 inch in diameter, or crumbles (Figure 1). Place the pellets in the bottom of a box or feeder that is no more than 1½ inch deep. In order for ducks to shovel the pellets with their bill, the feeder should be at least 3 inches wide. Ducks don't require much feeder space because they can eat a lot of pellets quickly. Even mature ducks probably need 3 inches or less length of feeder space per bird, except when breeders are given limited amounts of feed each day. Otherwise, provide enough feed so that there is feed in the feeder most of the day. Use feeders that are appropriate for the size of the duck, and position them so that the duck can eat without having to raise or lower its head very much. Larger ducks can eat pellets that are 1/4 inch or 3/8 inch in diameter.

Watering ducks is also relatively easy. Any container can be used that provides water that is at least 1/2 inch deep, unless a nipple waterer is used. The container must also be a little wider than the duck's bill, so that it has access to the

water. Any appropriate trough or pan can be used. Ducks should have water available to them at all times, and the waterers should be kept clean. When feeding, ducks like to alternate between feeding and drinking. The areas between these locations become wet and dirty. With larger numbers of ducks, houses can be designed to decrease this problem. A wire grate can be used to cover a gutter or drain. The waterer is positioned over the grate so that most of the water that is spilled will fall into the drain. It is not necessary for ducks to swim; however, occasional swimming will improve feather quality.

Light is also required by birds. One part of lighting is the brightness, and the other part is the hours of light per day. Light does not have to be very bright to be effective. If it is bright enough for you to see easily, it is also bright enough for the ducks. Very bright lights sometimes may lead to behavioral problems in which ducks may pick on each other and pull feathers. Using dimmer lighting or red light bulbs may ease the problem.

The number of hours of light each day is also important. To promote fast growth, continuous light should be used so that ducks can eat and drink at any time. If natural daylight is used, it varies from 8 or 9 hours in December to 15 or 16 hours in June in Ohio. In the wild, a trend of increasing length of day stimulates reproductive behavior. Ducks usually lay their eggs from February through May. Late in summer and in autumn when days are shorter, ducks no longer reproduce. In commercial duck farming, where it is important to have reproduction all year, electric lighting is used to provide the correct hours of light.

Air quality is also important in order to grow healthy ducks. One part of air quality is temperature, which was described earlier. Another part of air quality is gases that are added to air as a result of animal production. Manure from the animals contains microorganisms that produce gases that we can smell, such as ammonia and hydrogen sulfide. Air that has these gases must be exchanged for fresh air that doesn't. This is done by opening a window or turning on a fan. When the outside air is cold, air exchange should be fast enough to remove odors but slow enough so that as little heat as possible is wasted.

There are several ways to manage air quality. Keeping the litter dry is important. Microorganisms can't grow very well in dry conditions. So remove wet litter, which removes water, manure, and microorganisms, and add new litter to replace it. The humidity in the air affects how fast moisture from the ducks and the litter will evaporate into the air. Replacing the wetter air in the house with drier air from the outside will speed drying. Warming the air also speeds drying, because warmer air can hold several times as much moisture as cold air.

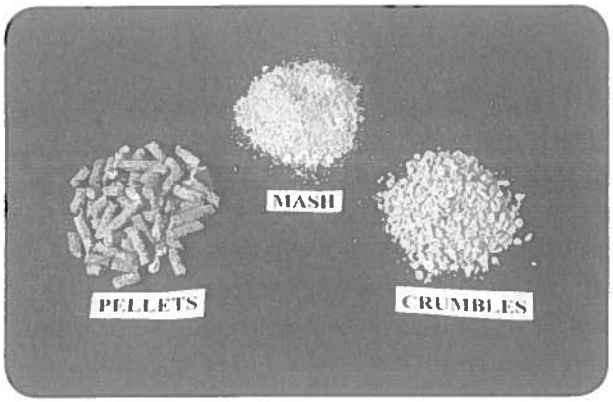


Figure 1. Forms of Feed

Geese

Information provided about the management of ducks also applies for the most part to the management of geese. Goslings need a comfortable temperature, which can be gauged by their behavior. They also need feed and water containers that are large enough so that they have easy access to feed but small enough so that they can get the feed and water easily. For the first three weeks, goslings should remain inside. For the next week or two, they should be permitted to go outside for part of the day. Then they can remain outside all day if there are no animals that will harm them.

General

Food or feed is the source of materials that an animal's body needs to grow or to replace what it is using up each day. In order to gain some information about what is in a feed or an ingredient, a procedure is followed that separates all feeds into six different parts or fractions. These are moisture or water, crude protein, crude fat, crude fiber, ash or mineral, and nitrogen free extract (NFE). Results of some of these analyses are found on feed tags or food labels. All of these fractions are determined by using relatively simple chemical procedures. This way of learning about feeds is called the proximate analysis.

All feeds contain some moisture. The usual amount is from 8 to 10%. If the percentage of moisture is too high, feeds will spoil by getting moldy. This happens if feeds have approximately 15% or more moisture. Animals can use moisture from the feed as a source of water for their body, which is about two-thirds water. If animals are on pasture, the fresh plants that they eat will have a much higher water content, as much as 80 or 90%. In order for the animals to meet their needs for water, they must have a source of clean water. Animals that don't get enough water will become dehydrated. This will affect their health and may cause death in extreme conditions.

Waterfowl eat foods or feeds that contain a high percentage of carbohydrates. Two fractions of the proximate analysis, NFE and crude fiber, give information about carbohydrates. Complete feeds that are bought at stores have most of their carbohydrate as NFE (primarily starch) and only a small proportion of fiber. This is because cereal grains make up a large proportion of a complete feed, and grains are high in NFE. Flour is an example of an ingredient that is very high in NFE because other fractions of the proximate analysis were removed while making flour. The average composition of some ingredients is given in Table 6. Waterfowl can digest most of the NFE in feeds, but little of the fiber can be digested. If waterfowl are eating whole plants while on pasture, their diet will contain more fiber than they would usually get with complete feeds. Alfalfa meal in Table 6 is more similar to pasture plants than to cereal grains.

TABLE 6. Composition of feed ingredients.[1]

Class	Name	Water	NFE[2]	Protein	Fat	Fiber	Calcium	NPP[2]
		----------			%			----------
Cereal grains	Corn	11.0	73.9	8.5	3.8	2.2	0.02	0.08
	Oats	10.0	61.6	11.4	4.2	10.8	0 08	0.10
	Wheat	11.0	70.2	11.5	2.5	3.0	0.05	0.10
Oil seed meals	Cottonseed	10.0	31.6	41.4	0.5	13.6	0.15	0.22
	Soybean	10.0	32.9	48.5	1.0	3.9	0.27	0.22
Plant byproducts	Alfalfa meal	8.0	38.6	20.0	3.6	20.2	1 67	0.28
	Corn gluten meal	10.0	23.0	62.0	2.5	1.3	-	0.14
	Wheat middlings	12.0	60.1	15.0	3.0	7.5	0.12	0.30
Animal byproducts	Fish meal	8.0	12.0	60.1	9.4	-	5.11	2.88
	Meat and bone meal	7.0	11.8	50.4	10.0	-	10.30	5.10

[1]From National Research Council (1994).
[2]NFE = Nitrogen free extract and NPP = non-phytate phosphorus.

TABLE 7. Composition (%) of diets for ducks at different stages of their life.

	1-14 days	15-50 days	Breeders
Ingredient			
Corn	62.9	77.9	73.7
Soybean meal (48% protein)	34.4	19.4	18.1
Dicalcium phosphate	1.5	1.1	1.1
Limestone	0.6	1.0	6.5
Salt	0.4	0.4	0.4
Vitamin and trace mineral mix[1]	0.2	0.2	0.2
Calculated content			
Protein	22.0	16.0	15.0
Calcium	0.65	0.60	2.75
Nonphytate phosphorus	0.40	0.30	0.30

[1] *Use a mix appropriate for the diet, and follow manufacturer's instructions for use.*

Digested carbohydrates are the main fuel source for the body. Glucose (sugar) is the main carbohydrate that results from digestion. The amount of glucose that is in the blood is regulated, and it is distributed throughout the body. The use of glucose for fuel might be compared to a fire that is burning wood. The fire consumes wood and gives off heat. In a related way, an animal's body consumes glucose and gives off heat. The way an animal's body uses fuel does not release heat as quickly or it would destroy itself; but the fact that birds maintain a body temperature of approximately 106°F is evidence of heat production.

Fat that is in feeds can also be digested and used for energy. Most feeds contain less than 4% fat. If ingredients are used that increase the dietary fat by several percentage units, waterfowl can digest the additional fat.

Protein in feeds is digested to amino acids. Growing birds use the amino acids to make muscle and other body proteins. Females that are laying eggs use amino acids to make protein that is in the egg. Mature males also need some amino acids to replace protein in their body that is wearing out and for some specialized functions. As a result, waterfowl need slightly more protein in their feed than when they are growing and reproducing.

Ducks

The composition of feed that is appropriate for ducks at different stages of their life is shown in Table 7. Feed for ducks is usually in the form of pellets, although it may be in the form of crumbles for very young ducks. When ducks start to lay eggs, they need a feed with enough calcium to make the eggshells. For mature ducks that are not laying eggs, all of the limestone except for 1.0% of the diet can be replaced by corn. If ducks are becoming too fat, the amount of feed given each day should be limited to the amount needed for the ducks to maintain the proper weight.

The feeds in Table 7 show that carbohydrates fill most of the volume in the diet and provide energy to waterfowl. Soybean meal in the diet varies in proportion to the percentage of protein that is

Displaying a bird for showmanship

Refer to Table 9 for a description of the procedures for showing a bird.

Examine the head.

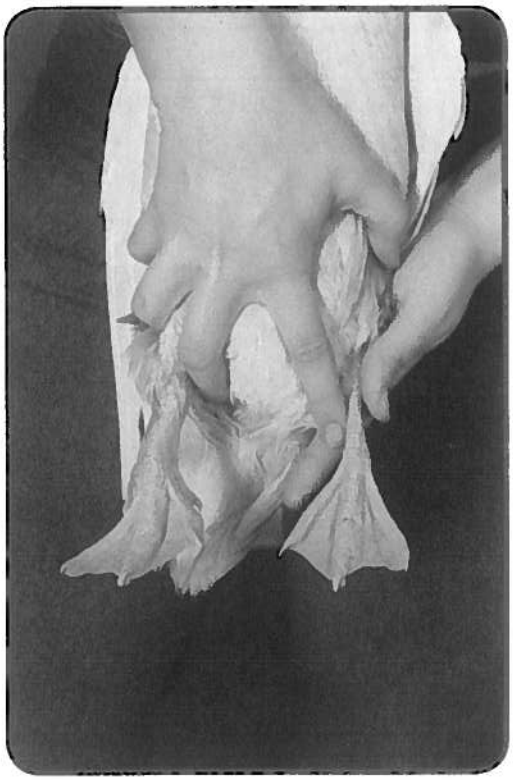
Examine wings.

Examine wings.

Examine body plumage.

Displaying a bird for showmanship

Examine tail plumage.

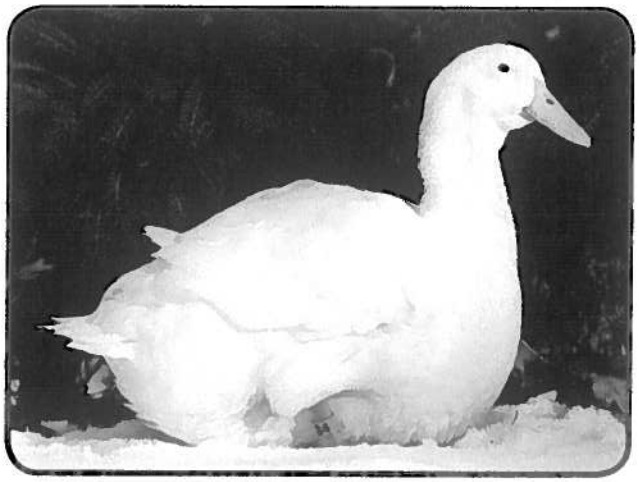


Examine shanks and feet.

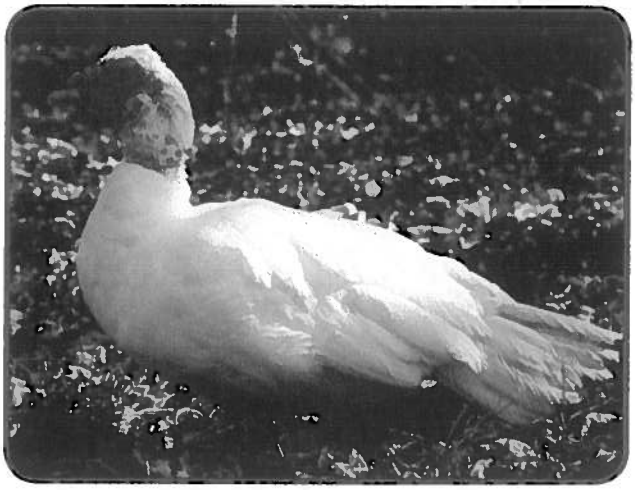
Examine shanks and feet.

Examine body.

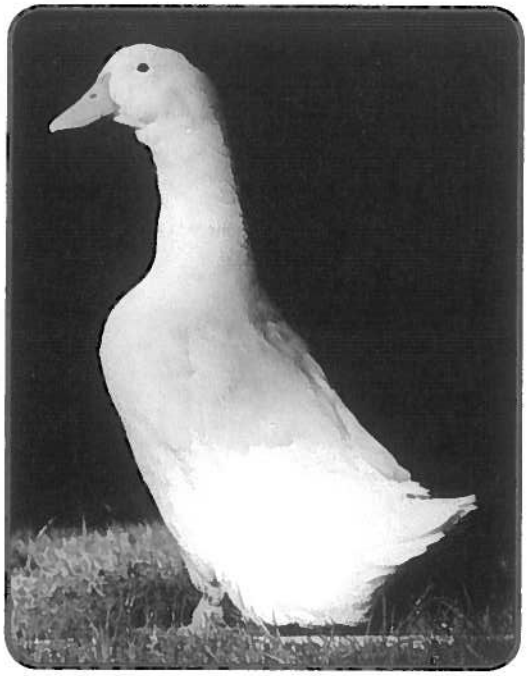
Silver Appleyard duck
Courtesy of Julie Dixon



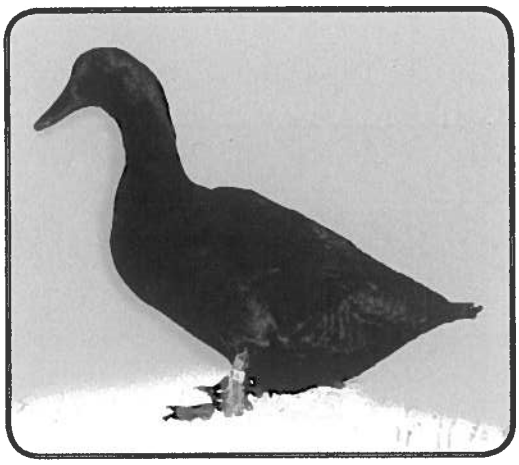
Aylesbury duck
Courtesy of James Konecny.



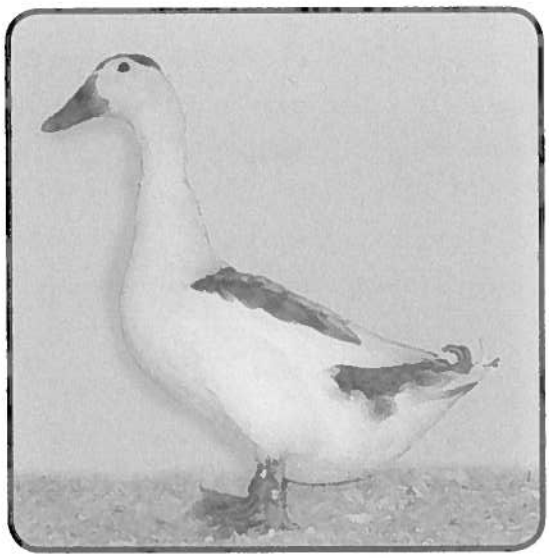
White Muscovy drake.
Courtesy of James Konecny.



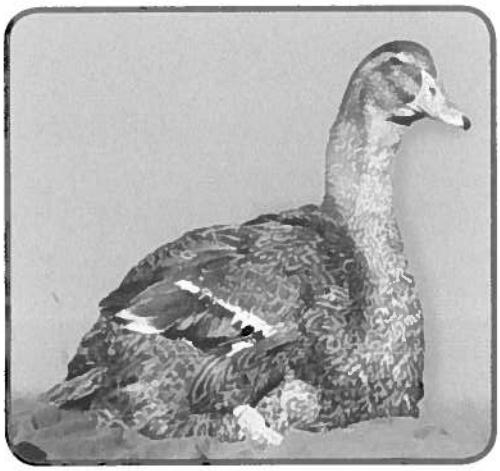
Pekin duck
Courtesy of James Konecny.



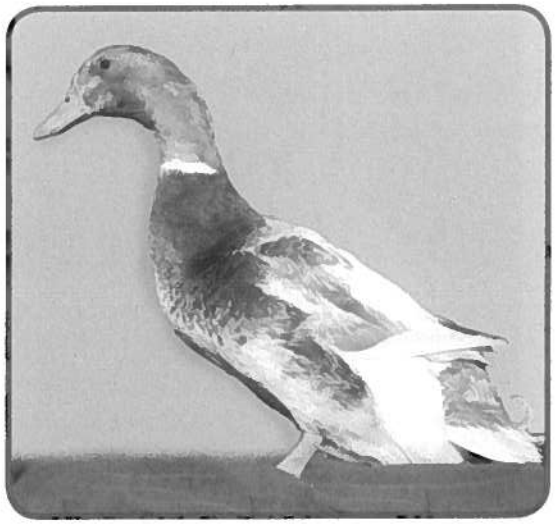
Cayuga duck
Courtesy of Kershaw's Waterfowl



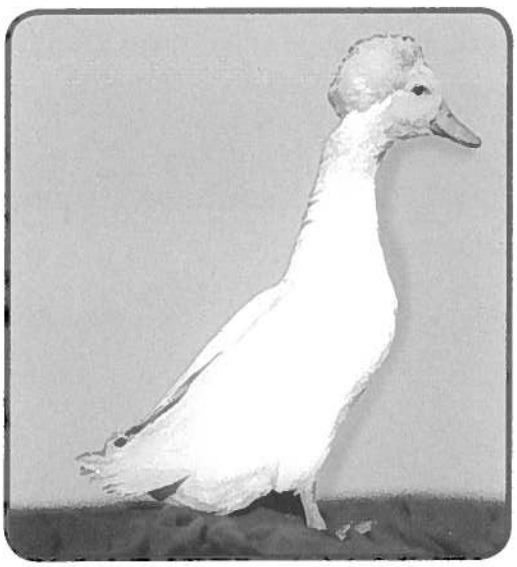
Blue and White Magpie drake
Courtesy of Lyle Noel



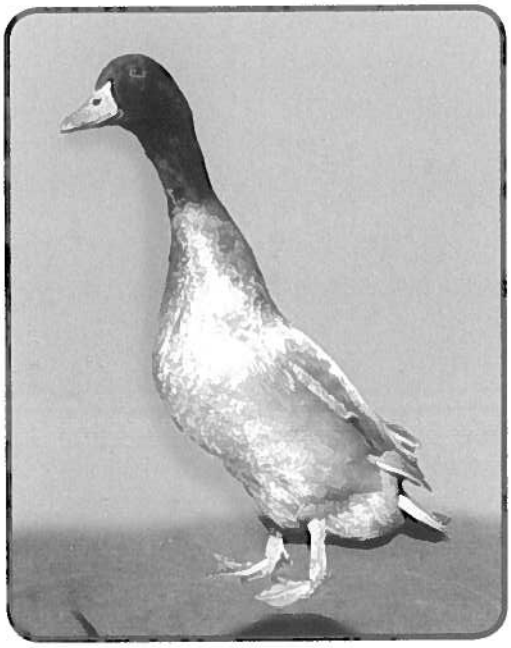
Rouen duck
Courtseny of Julie Dixon



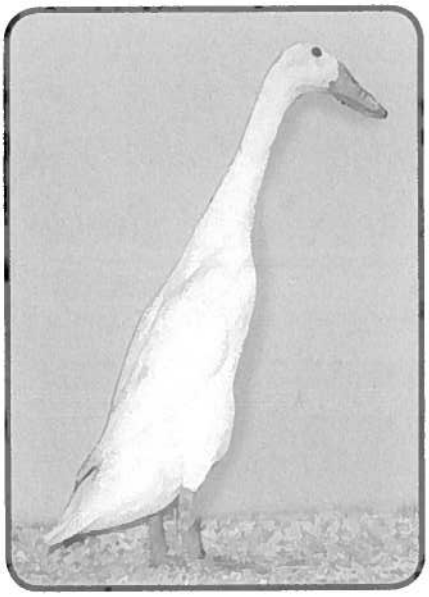
Saxony drake
Courtesy of Julie Dixon



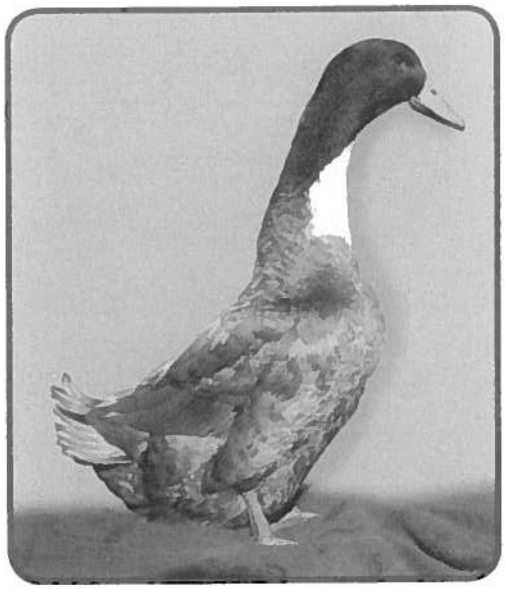
Crested drake
Courtesy of Julie Dixon



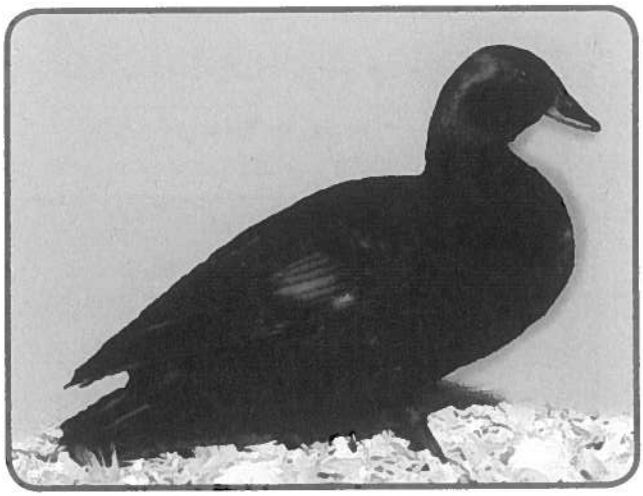
Khaki Campbell drake
Courtesy of Julie Dixon



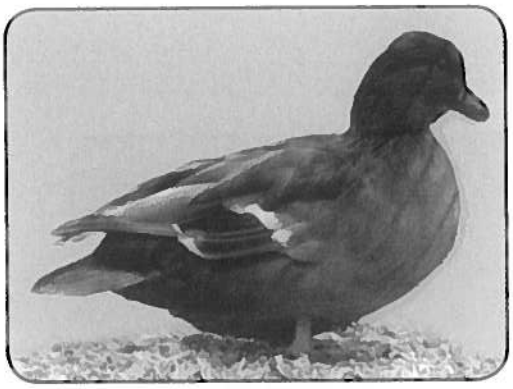
White Runner duck
Courtesy of Julie Dixon



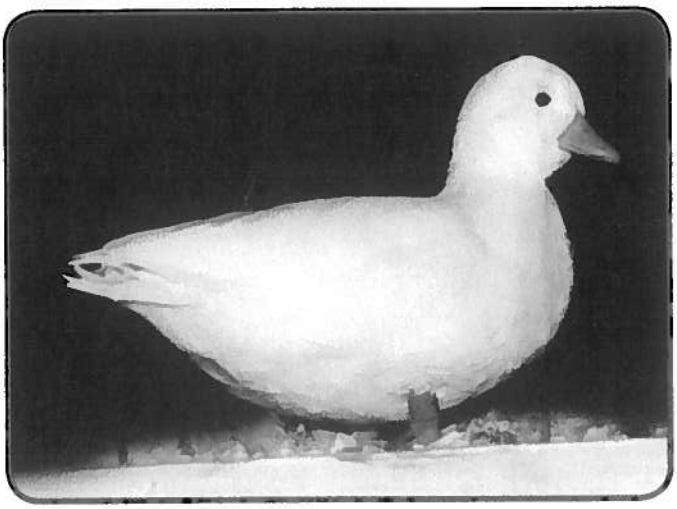
Blue Swedish drake
Courtesy of Julie Dixon



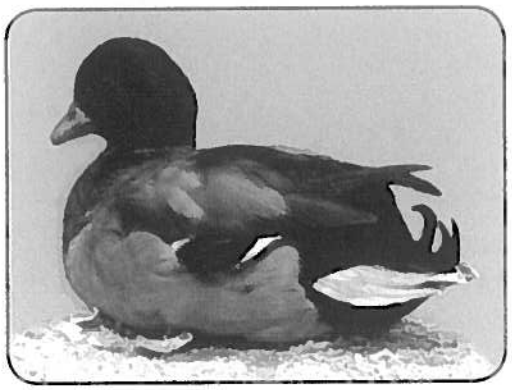
Black East Indy duck
Courtesy of Chris LaGerould



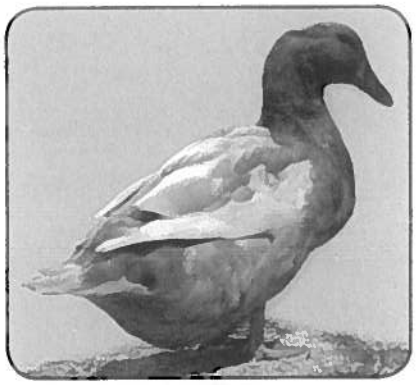
Khaki Call duck
Courtesy of Curtis Oakey



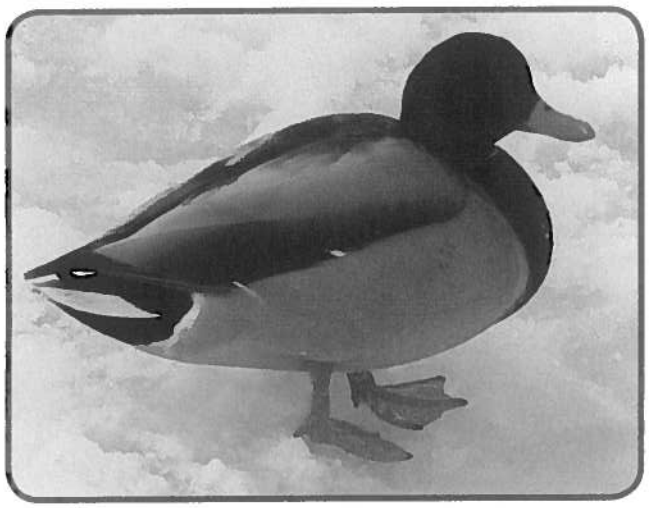
White Call drake
Courtesy of Charley Hodum



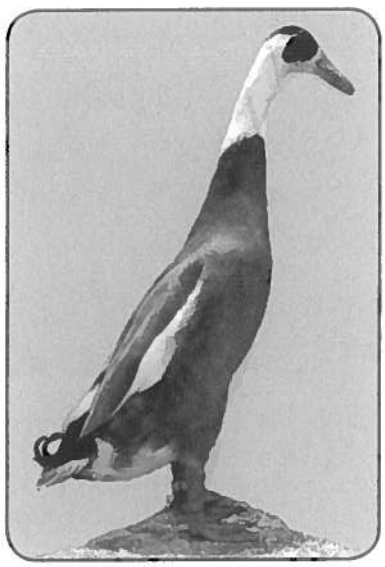
Grey Call drake
Courtesy of Darrell Sheraw



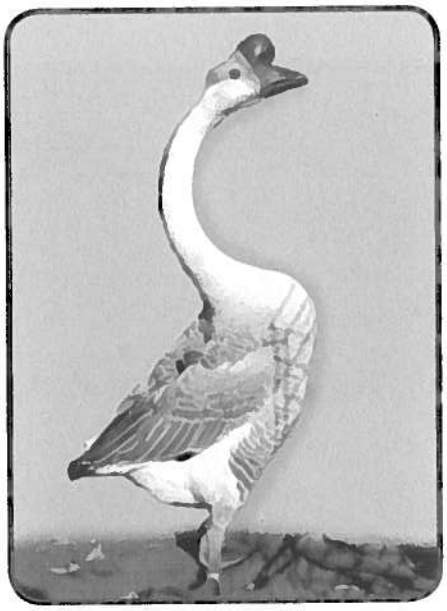
Buff duck
Courtesy of Joe Latshaw



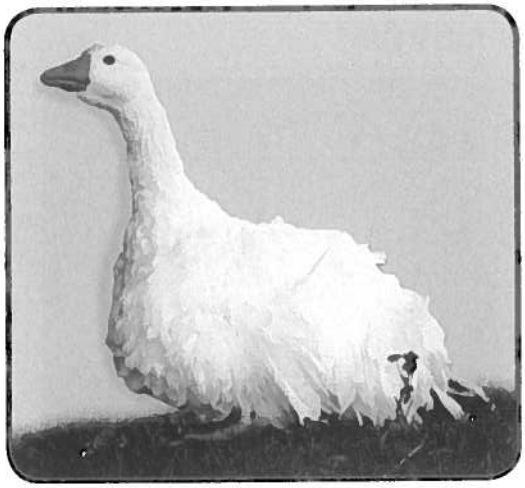
Gray Mallard drake
Courtesy of Joe Latshaw



Penciled Runner drake
Courtesy of Curtis Oakey

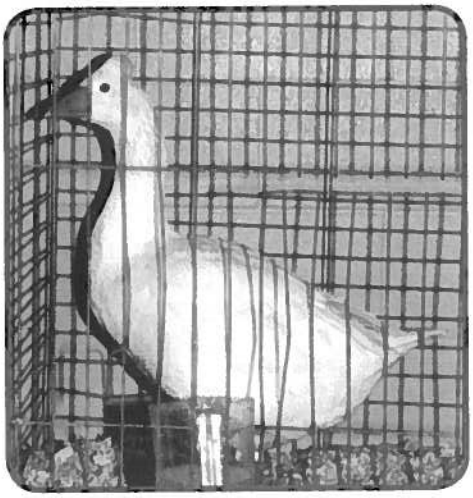


Chinese Brown
Courtesy of Julie Dixon

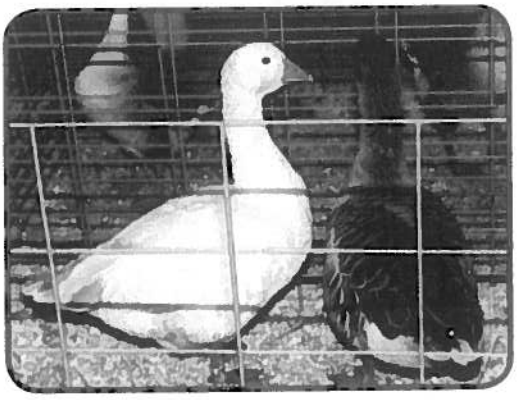


Sebastopol
Courtesy of Dave and Millie Holderread

Gray Saddleback Pomeranian
Courtesy of Lyle Noel

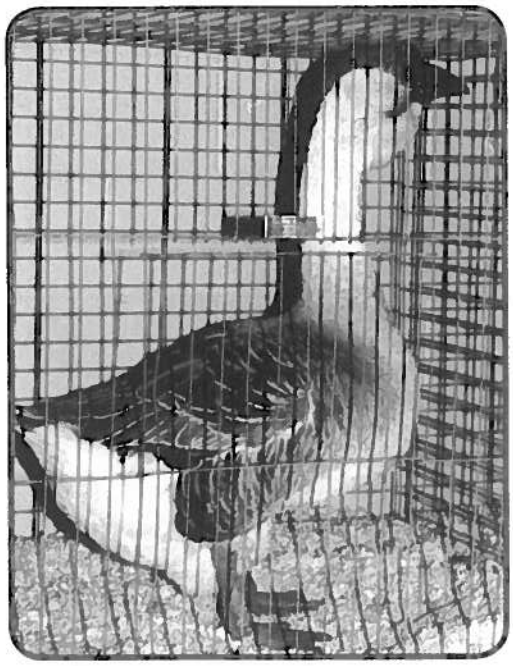


White Tufted Roman
Courtesy of Ryan Gartman

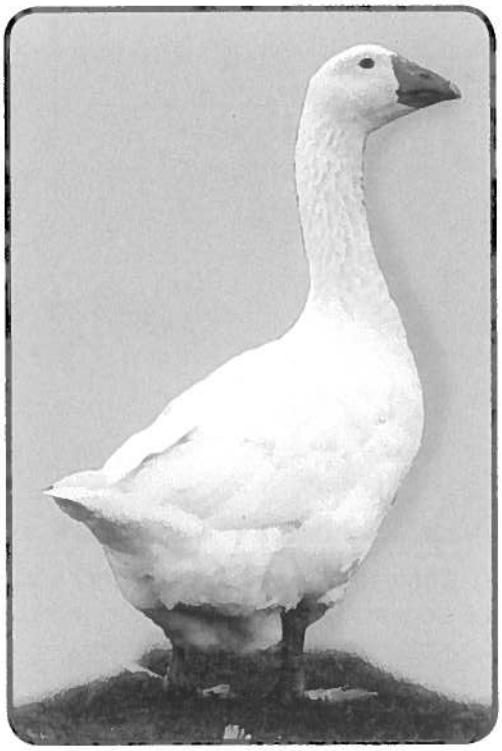


Pilgrim pair
Courtesy of James Konecny

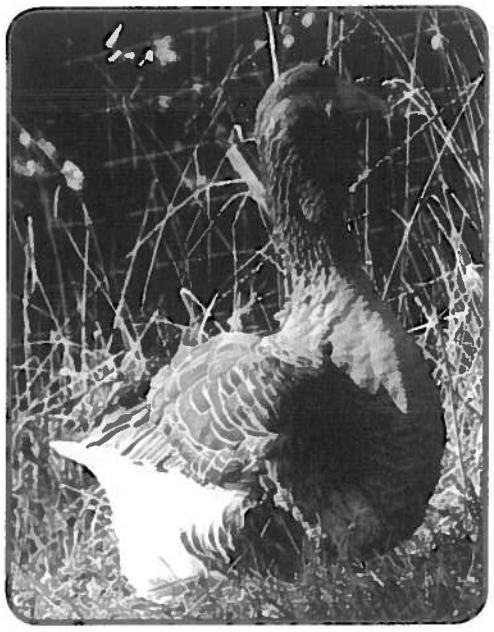
Egyptian Brown
Courtesy of Wild Plum Waterfowl



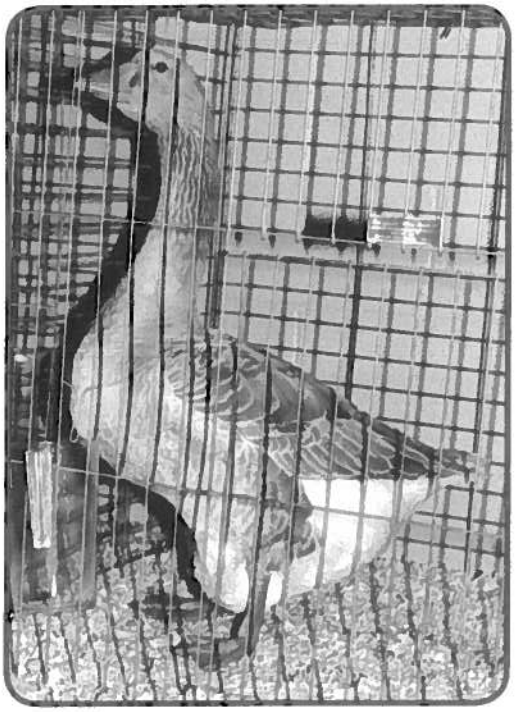
Brown African
Courtesy of Don Roscoe



Embden
Courtesy of Dave and Millie Holderread



Toulouse
Courtesy of Dave and Millie Holderread



American Buff
Courtesy of Wild Plum Waterfowl

needed. If waterfowl eat feed that is too low in protein, they will not get enough amino acids to make body protein that is needed for rapid growth. However, feeding more than the required protein will not improve their growth and health.

TABLE 8. Composition (%) of diets for geese at different stages of their life.

	0-4 weeks	After 4 weeks	Breeders
Ingredient			
Corn	67.75	80.80	75.30
Soybean meal (48.5% protein)	29.40	16.90	18.00
Dicalcium phosphate	1.25	1.10	1.10
Limestone	1.00	0.90	5.00
Salt	0.40	0.40	0.40
Vitamin and trace mineral mix[1]	0.20	0.20	0.20
Calculated content			
Protein	20.00	15.00	15.00
Calcium	0.75	0.65	2.25
Nonphytate phosphorus	0.35	0.30	0.30

Small amounts of ingredients other than corn and soybean meal are needed to make a balanced feed. Dicalcium phosphate provides additional calcium and phosphorus, while limestone provides only calcium. Both calcium and phosphorus are needed to make strong bones. Without enough of these minerals, birds develop abnormally shaped bones, especially in the legs. This condition is known as rickets. A mineral that is supplemented by salt is sodium. Without enough sodium, a bird's growth is stunted.

Approximately 15 other vitamins and minerals are needed by birds to remain healthy. If they forage to find plants, seeds, and insects, the vitamins and trace minerals are part of the foods they eat. If commercial feeds are used, the corn and soybean meal do not supply enough of some of the vitamins and trace minerals. To insure that the feed is nutritionally adequate, a commercially prepared vitamin and trace mineral mix is used to supply the nutrients.

Sometimes feed made specifically for ducks is not available within a given area. One suggestion is to feed turkey starter to meat-type ducks for the first two weeks, then switch to a chicken broiler feed with 18 to 20% protein. Other ducks could be fed a chicken or turkey feed with 18 to 20% protein during the first weeks. The feeds do not need to be medicated. One drug, amprolium, may be toxic to ducks. If they are fed this drug and begin to act drunk, switch them to a feed that does not have amprolium. In order for ducks to grow fast, they should have artificial light at night so that they will eat more. Swimming and other types of exercise should be limited for meat-type ducks.

Geese

Diets that supply appropriate amounts of nutrients for geese are shown in Table 8. Feeds are eaten most readily by goslings if they are in the form of crumbles. Older geese prefer pellets. Some ingredient substitution will provide a diet that forms better quality pellets. More fiber or the starch from wheat products make a pellet that is of better quality. In all of the diets, 12% wheat middlings can replace 10% corn and 2% soybean meal, or 20% wheat can replace 20% corn in any of the diets.

Few geese owners will prepare their own feeds and not many feed manufacturers make goose feed. In most cases, owners must choose a more common feed that is prepared for other birds. An important consideration is to check the feed tag for medication. If the feed tag is labeled medicated, it is best to avoid that feed. For goslings up to 4 weeks of age, a broiler feed or turkey feed in the range of 18 to 22% protein is

adequate if it is not medicated. For geese older than 4 weeks, a feed in the range of 14 to 17% protein is adequate.

Goslings are usually full-fed, which means having feed available at all times. When they are old enough to begin to forage, the amount of feed they are given may be limited. If there is a good supply of grass, geese may be left to get all of their feed by foraging. Usually some supplemental feed is supplied, providing about 0.2 pounds per day per goose. Geese grow slower and are leaner if they forage. To fatten geese, restrict the area that they use for exercise and full-feed them. They will be in market condition in 3 to 4 weeks. Market geese usually weigh 12 to 15 pounds. If they are less than four months old when marketed, there may be a problem with removing the immature (pin) feathers.

Breeding and Incubation

Ducks

If ducks are to be used for breeding, males and females should be housed together for several weeks before the breeding season. Backyard flocks may have only one male and one female. Larger flocks do well with only one drake for five to eight ducks.

Ducks can be sexed several ways. Males have a penis, but females don't. Even at a fairly young age, ducks can be vent-sexed. Gently insert a finger into the cloaca to feel for a penis. The vent can be everted enough to see the penis of a male. Other means of sexing are available at older ages. The sex of ducks with the Mallard color pattern is easy to determine because the males are brightly colored. All mature males have the two "sex" feathers on the tail. These feathers are curled and don't fit into the pattern of the tail. In addition, females have a loud quack, but males make only a whisper.

Reproduction is stimulated by increasing hours of light per day. With natural daylight, ducks receive enough hours of light to stimulate reproduction by April. The male and female mate, and the duck lays a nest of eggs. Usually a female lays six to eight eggs before becoming broody, which causes her to stop laying eggs and incubate the eggs she has laid.

If the duck is to incubate her own eggs, she will make a nest for them. Make sure that the pen area has some locations that are dark and quiet so that she can find a spot for a nest. She prefers privacy when laying eggs or incubating them. The surrounding area should also be dry so that the eggs remain relatively clean. Wet areas support the growth of microorganisms that may get into the eggs and decrease hatchability.

To make a nest, build a box that is a little larger than the duck that will use it as a nest. The box should be big enough so that there is a little space on each side when she sits down. A typical nest for Pekin ducks is 13 X 13 X 4 inches and is filled with wood shavings or straw. The nest can be left uncovered and placed somewhere in the pen where it is dark and protected. Or the nest can be darkened by enclosing all sides except one and then placing the nest out of the normal traffic pattern. If there are a number of ducks, one nest box should be provided for four ducks. Sometimes ducks will not incubate their own eggs or the plan is to hatch the eggs in an incubator. In this case, collect the eggs every day.

Ducks lay their eggs early in the morning. Most eggs will be laid by 8:00 a.m. Collect them as soon as they are laid and use good management practices to keep the eggs clean. If the eggs are dirty, they should be washed in water that is 105°F and includes a mild antibacterial dishwashing or hand detergent. Rinse the eggs and store them at a temperature of 55 to 60°F and high humidity. Do not store hatching eggs in a refrigerator because the cold temperature will kill the embryos. If stored longer than 7 to 10 days before incubation, hatchability decreases in proportion to the length of storage.

Eggs that are hatched in an incubator should have conditions that are similar to those for chicken eggs. Eggs should be rotated 90 degrees three times a day for at least the first 25 days. The temperature at the level of the eggs should be 99.5°F. The humidity should be high, 85 to 87°F with a wet bulb thermometer. After day 25 of incubation, the temperature can be decreased 0.5°F and the humidity increased to a wet bulb reading of 91°F. After making these changes for hatching, fill the water containers already in the incubator and then leave the incubator closed until the ducklings are dry.

Sometimes duck eggs are given to broody chicken hens to incubate. Any broody hen is acceptable, but Silkies and Cochins have good reputations as incubators. A broody hen can be recognized by her behavior, which includes remaining on the nest, even though she no longer lays eggs, and she has a characteristic clucking sound. An ideal spot to build a nest is in a sheltered area with a dirt floor. Hollow out a nest area about 1½ inches deep and as wide as the hen's body. Line the nest with straw, and place several dummy eggs in the nest. Give a trial run for a day to find out if the hen will "set." She might be confined to the nest initially by covering it with some kind of basket. If, after one day, she seems committed to the nest, give her the real eggs and remove the basket. She will need feed and water nearby so that she can complete the incubation.

Geese

Breeding geese are usually housed together in November. One gander can mate with four or five geese. They should be fed breeder feed (usually pellets) free choice starting no later than the first of the year. Egg production usually begins in late February. Geese may lay 30 to 40 eggs per year if eggs are removed from the nest when they are laid. The typical pattern is to lay an egg every second day during peak production. If eggs are not removed, the goose may lay 4 to 6 eggs before incubating them.

Geese generally stop laying eggs by June. They can then be turned out to pasture. Feeding and management during summer and autumn are aimed at getting the right body weight and body condition for the next breeding season. Geese usually are fed some feed to supplement pasture. Half a pound per day of a holding feed (14% protein) helps restore body fat content. As the weather gets colder, the feed is increased. If body weight and body condition are too low, geese will eat more breeder feed before beginning egg production.

Goose eggs require a little special attention. Conditions can be the same as for duck eggs except for one thing. They should be misted once a day with cold water directly from the tap.

Diseases

Given proper cleanliness and ventilation, ducks are relatively free of diseases. Two viral diseases that may affect flocks are very deadly. One of these is called duck virus hepatitis, a disease that affects ducklings between two days and four weeks of age. The onset is so sudden that ducklings may die within an hour. Post-mortem signs are a liver that is enlarged and hemorrhagic. Prevention is possible by vaccinating the breeder flock.

A second, very contagious disease is duck virus enteritis or duck plague. Ducklings are affected between two and six weeks of age. This disease causes diarrhea, thirst, and hemorrhages throughout the body. Vaccination of the ducklings is the best way to protect them. Unless these diseases are present in your area, there is no need to vaccinate for them.

Waterfowl sometimes get mites or lice. The most common way to find this out is for the lice or mites to get on a person who is handling the bird. Northern fowl mites are filled with blood, so they appear as tiny red spots moving across the skin. Lice are visible as small brown spots. Mites and lice get onto a person by mistake and don't like to stay there; however, they cause itching and irritation while there. Take a shower and change clothes to get rid of them. To control the external parasites on a bird, treat them with the vegetable dust, Sevin. Usually the problem is worst at the

back of the bird. Wearing gloves, hold the bird by the legs, dust it with Sevin, and rub the dust into the feathers and skin. Repeat the procedure within 10 to 14 days. A good way to kill all lice or mites in a poultry building is to remove the birds for at least a month so that the parasites will have no food.

Preparing Your Bird for the Show

The one aspect of fitting for the show that should begin early is handling your birds. Pick up and handle show birds at least once a day from the time of selection. Over time, the birds will become easy to handle and grow accustomed to people. It will also increase your comfort and confidence in handling the birds. When the judge picks up your birds on show day, he or she will sense whether the birds have been conditioned to show.

Selection

A few days before the show, a final selection of show birds should be made. The following are some points to consider when selecting your show birds. Select birds that look as much alike as possible (coloring). Select birds that are the same size and weight (for same-sex pens). If you have market birds, make sure they are alike in fat and finish. Don't choose birds that have lice or mites. Select birds that are healthy.

Cleaning

If given proper environment, ducks and geese will keep themselves clean. Ducks and geese that have been given access to water for swimming and are kept in a clean pen will likely not need much extra cleaning. Birds that have been kept indoors may need some extra cleaning. In general, birds with colored feathers will need less cleaning than birds with white feathers, because even the lightest soiling will show on white birds.

Small soiled spots on white feathers can be removed by wiping with a damp cloth. Large soiled areas should be washed with a mild shampoo. Place the bird in a container, such as a small garbage can, being careful to control it so that it doesn't hurt itself by flapping. The water, with just a little shampoo, should be a bit deeper than the bird's legs so that the water is easy to reach, but most of the bird is visible. Use a sponge or cloth to wipe in the direction the feathers lie. Wipe until an area is clean or no more stain can be removed.

Also wash the feet and shanks. Most dirt will come off by alternate soaking and washing. Some adhering dirt may require the gentle use of a toothbrush. After washing, rinse the bird several times with warm water. Dry the bird with a towel and then with a hair dryer. If there is time before show time, the bird can preen and finish drying in a clean cage.

Finishing Up

Prior to judging, give the birds a final check. Wipe off any small soiled spots with a damp cloth. A bright luster can be added to the bill by applying a sweet oil, such as olive or vegetable oil, with a small piece of cloth. Use just enough oil to provide a light coating. For a short time after applying the oil, feed and bedding may stick to the applied areas.

Showmanship

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 the experience with your project. When you show poultry, you are being graded by the judge. The judge considers your knowledge, care, and handling of your bird.

When you enter the ring, the first thing the judge will notice is your appearance and demeanor. You should be dressed neat and clean. Perhaps the most important part of your appearance is your smile. This shows the judge that you enjoy what you are doing. The judge will also be watching how well you listen and follow directions while being courteous to the other exhibitors.

Knowledge

You should be able to answer questions about your project when asked by the judge. Questions may include parts identification, general management and care, and specific species or breed information.

For beginners or juniors, questions should focus on basic management and care, simple anatomy, and knowledge of their particular bird (breed, sex, and variety). For intermediates, questions should focus on more detailed information such as anatomy, breeds, defects, etc. For seniors, questions should focus on management, anatomy, definitions, and knowledge of different species and breeds of birds.

Some typical questions might be:

1. What breed is your bird?
2. What is the age of your bird?
3. What is the incubation period for duck/goose eggs?
4. Name five parts of the bird (Figures 2 and 3).
5. Name a specific feather group (determined by judge).
6. How do you determine the sex of the bird?
7. Name breeds of meat/egg/fancy type ducks/geese.

Your knowledge is not limited to this book, so use other sources to add to your knowledge. Other good sources for knowledge are: The Poultry Skillathon Kit (available through your county Extension office); and The American Standard of Perfection, available through the American Poultry Association (APA) or libraries.

Care

The bird should be clean and free of dirt and manure.

Handling

To evaluate how well you handle your bird, the judge will ask you to do several different tasks. What is asked depends on judging methods, which vary from judge to judge; it also depends upon cages and tables available at the fair, which can 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.

Some of the handling procedures that the judge may ask you to demonstrate are: removing the bird from the cage; carrying the bird; setting the bird on a table and posing it; and examination of the bird, including displaying the wing (see Table 9 and photos in center color section under "Displaying a bird for showmanship").

Place the bird on the examination table and pose the bird to its best advantage. Pose the bird in an alert position with head and bill raised, feathers smooth, and wings in normal position. With large ducks and geese, the focus may be primarily on keeping the birds still and calm. While the bird is on the table, the judge may ask you to present the bird in various poses and/or exchange birds with other exhibitors. This is part of what you are being judged on, as well as your ability to handle other people's birds.

The judge uses these techniques to see which exhibitor has the best general handling skills. Some tips to remember are: 1) The first responsibility is to make sure your bird is under control and positioned correctly, but keep your eyes on the judge as much as possible; and 2) Keep your bird under control but cover as little of the bird with your hands as possible. This allows the judge to get a good look at your bird.

Processing the Bird for Meat

There are several procedures that need to be accomplished. The first is to harvest the bird humanely. Next, the feathers must be removed. Then the inedible inside parts must be removed (evisceration). Finally, the carcass must be cooled.

To harvest the bird, a funnel can be used and hung several feet from the floor. It should have a large enough opening at the bottom so that that bird's head can fit through. The top should be large enough that the bird's body can fit inside

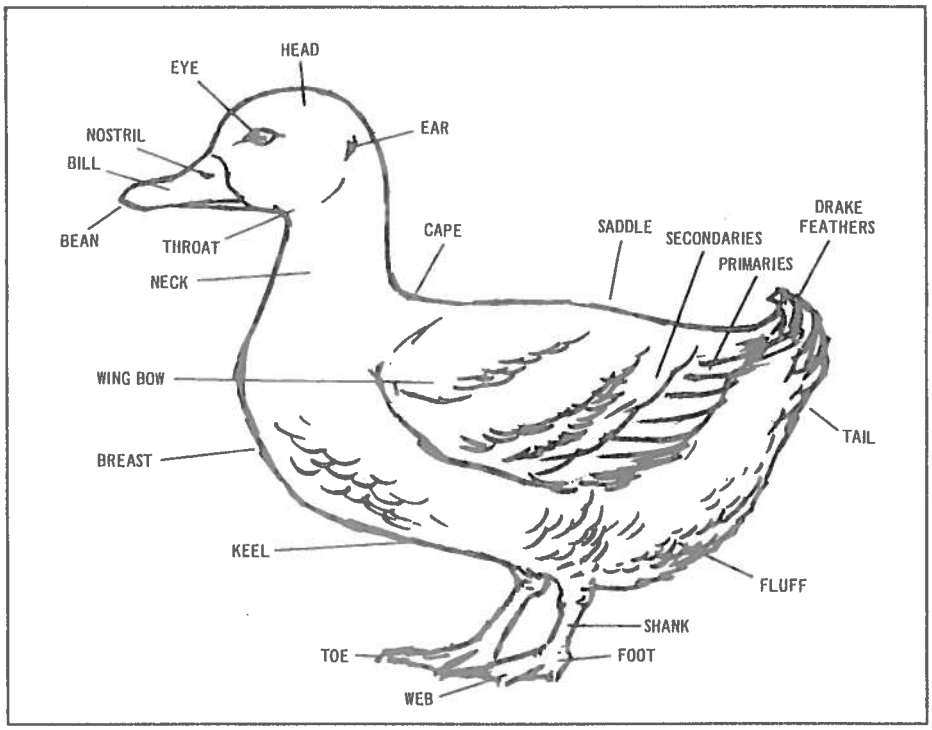


Figure 2. Parts of the Duck

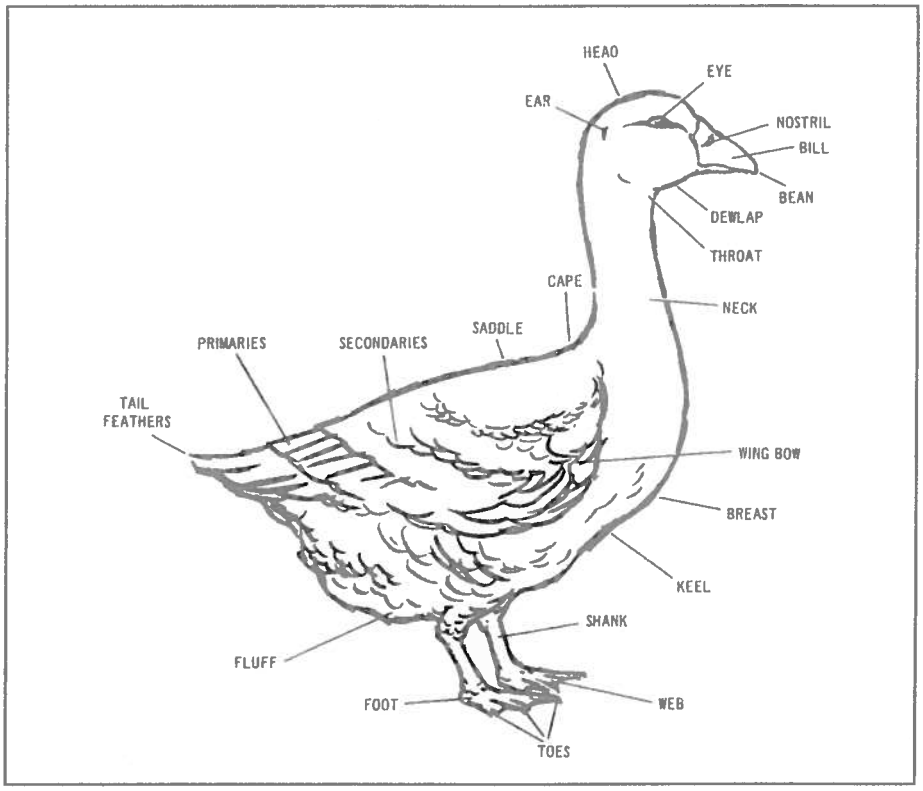


Figure 3. Parts of the Goose

TABLE 9. Procedures for showing a bird.

Procedures	How Done	Reason
1. Remove bird from exhibition coop.	Always head first with one hand over back, and the other under the 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 the head.	Hold head of bird alert by prodding at the region of the wattles.	To note 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 other hand.)	To note color, absence of feathers, slipped wings, split wings, and twisted feathers.
5. Examine body plumage.	Over the back, on the breast, and the body.	To note color and quality, presence of lice.
6. Examine tail plumage.	Give the tail 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 bird should rest in the palm of the hand.	To note color and abnormal feet.
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 judge verify any observations.
10. Return bird to coop.	Head first.	To keep bird smooth and unruffled.
11. Return to position by the coop.	Keep your bird on alert until judge has made a decision.	Give judge better opportunity to see the bird.

it, leaving the legs within easy reach. Place the bird in the funnel, and pull its head through the bottom hole. If no funnel is available, the bird can be hung by its feet. Control the head by holding the neck next to the bill. Using a sharp, pointed knife, dull side of the knife toward the neck bone, push the knife through the skin and cut away from the neck bone in one quick motion. If you are successful at cutting the blood vessels, there will be a trickle of blood. The bird will eventually begin to flop its wings. Keep it in the funnel until it no longer moves.

The next part is removing the feathers by using hot water (scalding). A container is needed that is big enough to permit submerging the whole bird. Boil some water and then dilute with cold water to get a water temperature of 145 to 150°F. Thermometers designed to test the internal temperature of meat are useful. A small amount of detergent aids the wetting process. Move the bird up and down in the water to make sure that hot water is getting into the feathers. Test for completeness of scalding by trying to pull the wing feathers. When these feathers can be removed fairly easily, the scalding is complete. Take the bird out of the water and remove all of the feathers. Normally, you will need to scald the bird about 3 minutes to reach feather release for easy plucking.

Waxing the bird may be used to complete the picking process, although this may not be needed for birds with mature feathers. A layer (1 to 2 inches) of melted "duck wax" is floated on water at 145 to 150°F. Hold the bird by the bill and legs, and dip it in the wax several times so that wax will adhere to the body. Dip the bird in a container of ice water to semi-harden the wax. Then dip the bird in wax again. Before the wax hardens completely, remove the wax and feathers. The wax can be recycled by heating it enough to free the feathers, which can be skimmed. Wax can be saved for later use.

Evisceration is used to remove inedible parts. An important objective is to remove the digestive system without breaking it and spilling the contents. An empty digestive system makes this much easier, so the bird should have been without feed at least 6 hours before harvest. Make an entrance to the abdomen by cutting around the vent. When cutting, the knife should always be pointed away from the middle, because that is the location of the intestine. After completing this step, cut an opening large enough to reach inside the body. Circle the inside of the body cavity with your finger to break the attachments between the body cavity and internal organs (viscera).

Some work is needed at the front of the bird. Locate the trachea and esophagus through the cut made to bleed the bird. Cut the skin from the original cut back to the body. Loosen the trachea and esophagus from the skin. With your finger, follow the trachea and esophagus through the tunnel into the body. Loosen them and other organs inside the body cavity as far as you can reach. Cut the trachea and esophagus, then reach in the back of the bird, hook your fingers over the gizzard, and pull gently. If all attachments have been torn, the viscera should come out together. Additional work may be needed to remove the liver, heart, lungs, and kidneys. Cut off the head and legs, and wash the bird thoroughly. The heart, liver, and gizzard (giblets) can be cleaned and saved for food. Be careful not to rupture the gall bladder attached to the liver. The gall bladder needs to be removed in order to use the liver as a food.

The final step is to decrease carcass temperature. The dressed bird should be placed in ice water for several hours to cool all parts of the body close to 32°F. This is needed to improve tenderness and taste. Then the bird can be refrigerated for fresh use or placed in a freezer bag for freezing.

Quality Assurance

All animals should have care that promotes good health. That includes proper housing and ventilation and the correct food or feed. If birds are to be sold, two other factors should be considered. One is genetics. If a person wants to buy a certain breed, it is important for you to know what the genetic background of your birds is so that you can assure quality. If the birds are to be used for meat, appropriate breeds that will supply a good product should be used.

Another aspect of quality assurance is providing a safe product. Most of the attention in this area relates to the use of drugs and medications. Because waterfowl have few diseases, it is unusual to need drugs; however, it is important to know basic information about the safe use of drugs.

When a drug is added to feed, the feed tag will indicate that the feed is medicated. The first step is to be sure that the feed is safe for waterfowl. A drug may cure or prevent a disease in one animal but poison a different animal. A drug that may be appropriate to feed to chickens may be illegal when fed to waterfowl. It is important for drugs to be used as intended.

When a drug is fed or injected, the drug must be absorbed into the body for it to cause a positive effect. It is a foreign substance that may cause harm to people who eat the meat. In order to give the animal time to get rid of most or all of the drug from its body, most medicated feeds will indicate a withdrawal time. This is the length of time that meat or eggs should not be eaten after using the drug. If the meat or eggs are eaten too soon after drug treatment, the products may have unacceptable levels of the drug.

Show Ring Ethics

One of the most visible components of 4-H and FFA is animal shows. Much of the public's contact with 4-H and FFA is at the county fair where show ring events draw large crowds. What the audience sees reflects on the total Junior Fair 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 and FFA 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?

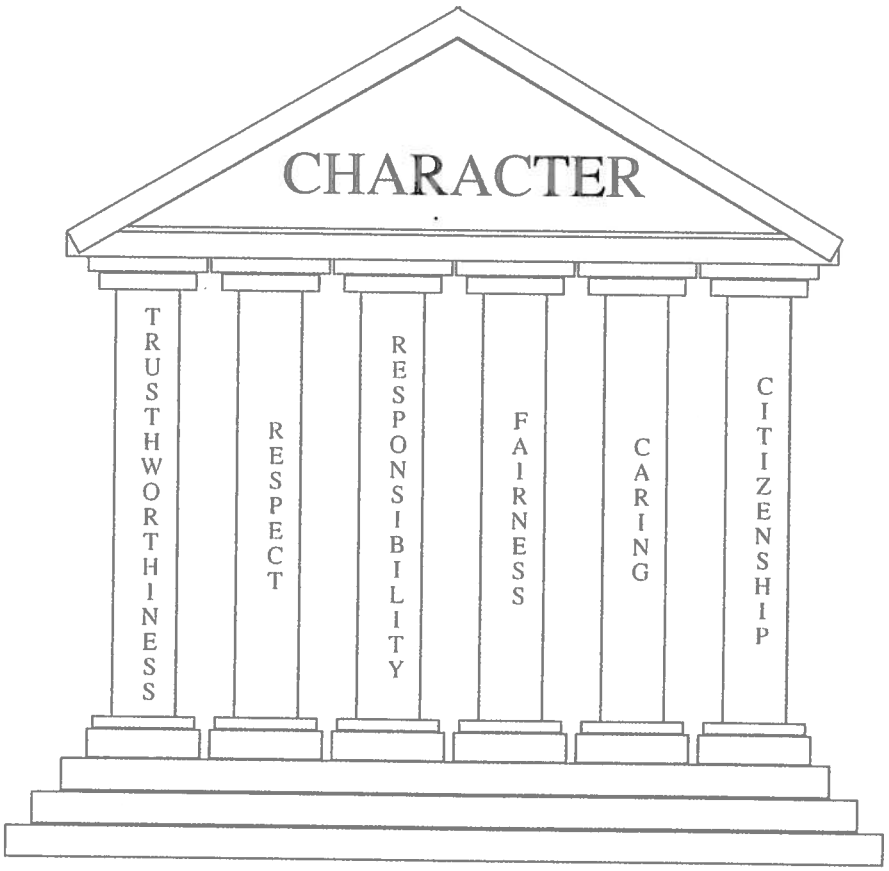
Competition, if you keep it in perspective, can be a positive tool to help develop important skills in your life. Many 4-H and FFA alumni who showed animals during their youth attribute success in their careers to the diverse skills gained as a 4-H or FFA member. You use decision-making skills and critical thinking techniques to select your animal and choose a feeding program. Answering the judge's questions in a confident manner helps you gain poise, which is beneficial in many other situations. The ability to be a good sport 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 birds for the show should only include techniques that have no risk of injury or pain to the birds. What image of the livestock industry will consumers form while watching you present your animal? Putting in many long hours of practice with your bird is the only way to achieve that polished, confident look. *If a TV camera was present when you are working with your birds, would you do anything differently than you normally do?*

The effects of unethical practices on birds can be harmful or even fatal. If your birds go to slaughter and residues are found in the tissue, the birds will be disqualified. Even if you did win, your moment in the spotlight is short-lived. Think about what will stay with you after the thrill of winning has worn off. How does this reflect on you and the animal industry?

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



Pillars of Character

Adapted from materials developed
by the Josephson's Institute of Ethics

- Trustworthiness—being honest, standing for what is right.
- Respect—judging people on their merits or the good things they do.
- Responsibility—doing your best, being a good example.
- Fairness—using the same rules or standards for everyone.
- Caring—treating others as you want them to treat you.
- Citizenship—being committed to the welfare of your community, state, country, or world.

1. List the six pillars of character. Then choose one pillar and describe how you will practice that pillar. _____

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 birds? _____

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

4. List the benefits you have gained from your past show 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 a bird 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?

Ohio Farm Animal Care
COMMISSION

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 are vital to human existence and therefore deserve our protection and compassion. Humans have had an inseparable relationship with animals and nature, as man has served as their sole caretaker 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 endorses the following Code of Practices.

Code of Practices

The following describes general responsibilities of the farmer and all persons in his or her authority in the proper care and handling of animals raised for food or 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 their health and ensure that all basic requirements are being met.
- To ensure proper handling techniques are used to eliminate any 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.

GLOSSARY

ANATIDAE: The family that includes ducks, geese, swans, and their subfamilies.

ANATINAE: The duck branch of the Anatidae family.

ANSERINAE: The goose branch of the Anatidae family.

BEAN: A raised, hard, bean-shaped protuberance on the tip of the upper mandible of waterfowl. This is the growing tip of the bill.

BILL: The horny formation projecting from the front of the head of waterfowl, consisting of an upper and lower mandible.

BROODER: A heat source for starting young birds.

BROODY: The maternal instinct that causes the female to "set" or want to hatch eggs.

CARUNCLES: The fleshy protuberances on the naked portions of the head, face, and neck of the Muscovy duck.

DEWLAP: A loose fold of skin on some breeds of geese. It hangs between the bill and the neck.

DOWN: The body covering of ducklings; the additional layer of feathering that serves to keep waterfowl warm and dry. Adult down is the feathers covering the breast and lower abdomen.

DRAKE: A male duck.

DUCK: A female duck (specifically); any member of the Anatinae family (generally).

DUCKLING: A young duck up until its feathers have completely replaced the baby down.

GANDER: A male goose; adult if over one year of age, young if under one year.

GIZZARD: The muscular stomach of birds that functions to grind food and partially digest proteins.

GOOSE: A female domestic goose (specifically); any member of the subfamily Anserinae.

GLOSSARY

GOSLING: Young geese up until feathers have completely replaced the down.

GREEN DUCK: A duckling that is grown rapidly and marketed for its meat at about 7 to 8 weeks of age.

KNOB: The horny protuberance at the juncture of the head and upper bill in African and Chinese geese.

LAMELLA: Tooth-like serrations on the inner edges and roof of the bill of ducks and geese.

MOLT: To shed old feathers and regrow new ones.

OLD: Refers to ducks and geese over one year of age.

PAUNCH: Pendulous folds of flesh and skin suspended from the abdomen of geese.

PIN FEATHERS: New feathers just emerging from the skin.

PREEN GLAND: Produces oil that birds spread on their feathers. It is located on the back, just in front of the tail.

PRIMARIES: The long, stiff flight feathers at the outer tip of the wing, counting from the wing tip to the body, the first 10 long feathers.

SCOOP-BILL: A concave depression in the top of the bill of waterfowl; a disqualification.

SECONDARIES: The large wing feathers adjacent to the body, visible when the wing is folded or extended.

SEX FEATHERS: Also known as drake feathers. The two feathers in the tail of the drake or male duck which curve upward and forward and by which the sex of ducks is distinguished (except in Muscovy ducks).

STRAIGHT-RUN: Refers to the way an order of ducklings/goslings are sent from the hatchery without being separated by sex.

WEB: The stout membranes between the toes of all Anatidae.

References

American Poultry Association, Inc. *Poultry Showmanship: A Manual for the Organizer and the Judge*. Mendon, MA.

Crawford, R. D. 1990. *Poultry Breeding and Genetics*. New York: Elsevier Science Publishing Co., Inc.

Holderread, D. 1993. *Raising the Home Duck Flock*. Charlotte, VT: Garden Way Publishing.

Incubation and Embryonic Development. Extension Bulletin 633. Columbus, OH: Ohio State University Extension.

Mercia, L. S. 1990. *Raising Poultry the Modern Way*. Charlotte, VT: Garden Way Publishing.

Metzer Farms, Gonzales, CA. http://metzerfarms.com

National Poultry Judging. Cooperative Extension 4-H Bulletin 460. Lincoln, NE: University of Nebraska.

National Research Council. 1994. *Nutrient Requirements of Poultry*. Washington, DC: National Academy Press.

Sainsbury, D. 2000. *Poultry Health and Management*. Malden, MA: Blackwell Science, Inc.

Scott, M. L., and W. F. Dean. 1991. *Nutrition and Management of Ducks*. Ithaca, NY: M. L. Scott of Ithaca.

American Bantam Association. Shows only bantam breeds.
P.O. Box 127
Augusta, NJ 07822
973-383-6944
e-mail: aba@bantamclub.com
http://www.bantamclub.com

American Poultry Association. Publishes the American Standard of Perfection, a book that shows standard and bantam breeds of poultry.
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http://www.ampltya.com

International Waterfowl Breeders Association. National association for those interested in waterfowl.
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Ohio National. Provides articles of general information, lists of breeders, and information about the Ohio National Poultry Show.
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SKILLATHON FEEDS
DUCK STARTER
PELS
Formulated For Starting Ducks

Guaranteed Analysis

Crude Protein (Min.)	20%
Crude Fat (Min.)	2.5%
Crude Fiber (Max.)	3%
Calcium (Ca) (Min.)	0.5%
Calcium (Ca) (Max.)	1%
Phosphorus (P) (Min.)	0.65%
Salt (NaCl) (Min.)	0.25%
Salt (NaCl) (Max.)	0.75%
Vitamin A (Min.)	10,000 IU/lb.

Ingredients

Corn, Dehulled Soybean Meal, Meal and Bone Meal, Dehydrated Alfalfa Meal, Dicalcium and Monocalcium Phosphate, dl-Methionine, Salt, Potassium Sulfate, Magnesium Sulfate, Choline Chloride, Vitamin A Supplement, Vitamin E Supplement, D-Activated Animal Sterol (Source of Vitamin D-3), Niacin, Vitamin B-12 Supplement, Riboflavin, d-Calcium Pantlothenate, Menadione Dimethylpyrimidinol Bisulfite (Source of Vitamin K Activity), Folic Acid, d-Biotin, Thiamine Mononitrate, Pyridoxine Hydrochloride, Zinc Sulfate, Ferrous Sulfate, Manganese Sulfate, Copper Sulfate, Ethylene Diamine Dihydrodide, Cobalt Sulfate, and Sodium Selenite.

Feeding Directions

Feed as the sole ration from 0-14 days of age.

Manufactured by
SKILLATHON FEEDS
Columbus, OH 43210

Net Weight – 50 LBS. (22.7 Kg) – BULK Shown on invoice

Adapted from Kalmbach Feeds, Inc., Upper Sandusky, Ohio

Duck Starter Feed Tag
QUESTIONS

1. What is the main ingredient in this feed?
   _____
2. Does this feed contain a medicated ingredient? _____
   _____
3. What is the maximum crude fiber level in this feed? _____
   _____
4. Does this feed contain Vitamin A?
   _____
5. What is the minimum crude fat level in this feed?
   _____

Record KEEPING

It is important to keep records about your waterfowl project. Records will help you remember details about your project as well as determine the costs. If your project loses money, you will have information to decide if the project is too expensive. If your project makes money, it's good to know how much profit it made. A simple ledger can be helpful.

EXPENSES

Date	Amount ($)	For*	To
TOTAL			

* Indicate if for birds, feed, or other supplies.

INCOME

Date	Amount ($)	For	From
TOTAL			

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