A large white silhouette of a rabbit's head and ears, with a circular cutout in the center containing the title text.

# Rabbit Manual For 4-H'ers

TEXAS A&M UNIVERSITY  
TEXAS AGRICULTURAL EXTENSION SERVICE  
J. E. Hutchison, Director, College Station, Texas

A white paper rabbit silhouette is centered on a red background. The rabbit's body is a large circle, and its ears are two pointed shapes extending upwards and outwards. The paper has a slightly textured, handmade appearance.

### *Message to Parents*

Raising and marketing rabbits is an ideal project for 4-H Club members, especially in urban areas and on small farms with limited space. A rabbit project allows 4-H'ers to experience the joy of owning a fine, pure-bred animal with a minimum investment.

Your 4-H'er will learn the principles of nutrition, care, grooming, breeding and how to lower investments. All that is needed is a good place to house rabbits, feed to keep them growing, a willingness to make the project a success and your help as a parent.

This 4-H rabbit project will teach you proper ways to feed, manage and show rabbits. Those who have never raised rabbits will want to start with young, pure-bred animals from 3 to 4 months old. Usually, two females (does) and one male (buck) of the same breed make a good beginning.

# Rabbit Manual for 4-H'ers

*Robert W. Berry\**

The experienced rabbit raiser might purchase a doe from the medium-sized breeds, such as the New Zealand or Californian. The more advanced breeder may tackle a trio of the fancy marked show rabbits, such as Dutch or English Spots. However, because these show rabbits are difficult to raise, the beginner in 4-H rabbit raising should consider them only as possible choices for advanced projects.

## **BREEDS OF RABBITS**

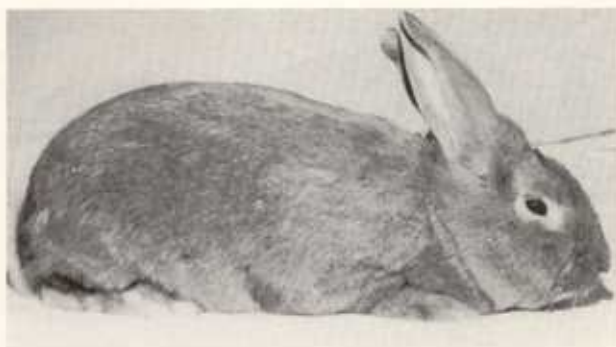
The beginner may have difficulty deciding on a breed. If so, attend rabbit shows, visit breeders and talk with 4-H leaders to learn more about breeds.

The final decision rests largely on what the area market demands or for what purpose the rabbits are raised. Color preference and other characteristics play some part in the selection. However, it is not practical to select a breed for looks alone. 4-H members raise rabbits primarily for meat, *not for pets only*.

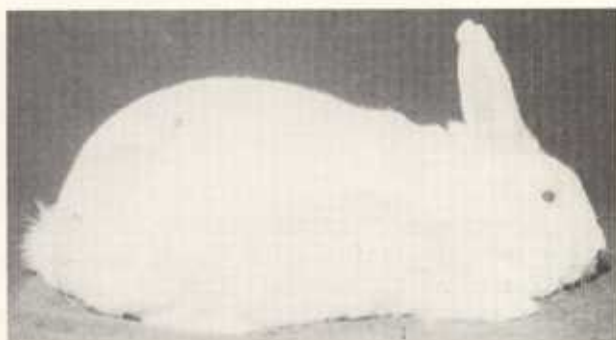
Rabbit breeds best suited for 4-H projects include Red New Zealand, White New Zealand, Californian, Chinchilla, Champagne d'Argent, Satin and Silver Marten. These commercial breeds excel in producing large litters of meaty rabbits. Fancy show breeds include Polish, Dutch, English Spot and Himalayan. Giant breeds, such as Flemish and Checkered Giant, are not recommended for 4-H projects since they have difficulty through Texas summers and require more room and feed.

\*Area plant pathologist, Texas Agricultural Extension Service, Texas A&M University, and vice president, Texas Rabbit Breeders Association.





*Red New Zealand*



*White New Zealand*



*Californian*



*American Chinchilla*

### *Commercial Breeds*

**Red New Zealand** is an American creation. The name has nothing to do with the breed's origin. Its true ancestors are the Belgian Hare and the Golden Fawn, both popular before the New Zealand made its appearance. The New Zealand Red has a rich reddish color over the entire body. Ideal weight of mature bucks is 10 pounds; does 11 pounds.

**White New Zealand**, also an American creation, made its appearance after the Red New Zealand and is one of the best all-around commercial breeds. It is an all-white rabbit whose fur can be dyed many colors for use as garment trims. Ideal weight of bucks is 10 pounds; does 11 pounds.

**The Californian** breed is another American creation. After experimenting and cross breeding, this all-round rabbit was produced in 1923. It was bred similarly to other livestock, with broad shoulders, meaty back and hips and a good dressing percentage. This is a white rabbit except for ears, nose, feet and tail which are a dark gray or black. The ideal weight for bucks is 9 pounds; does 9½ pounds.

**The American Chinchilla** is a well-rounded, meaty animal of medium length. It has smooth hips, meaty shoulders and a firm, well-filled loin. This rabbit compares with commercial breeds in meat dressout, quality, flavor, growth and development. This breed has been improved over the scrawny animal from France that first made its appearance in the United States in 1919. Its under color is blue with several white bands. The guard hair is tipped with black, giving a beautiful wavy effect and an overall grayish appearance. Ideal weight for American Chinchilla bucks is 10 pounds; does 11 pounds.

**The Champagne d'Argent**, also known as French Silver, is probably one of the oldest breeds known and has been raised in France for more than 100 years. A well-known commercial breed, its fur is useful in its natural state and is still one of the leading furs used in garment manufacturing throughout Europe.

This rabbit is born black. At about 3 or 4 months, it takes on the adult color, which is a silver or skimmed milk color with a dark slate blue undercoat. Ideal weight for bucks is 10 pounds; does 10½ pounds.

The **Satin** is an American breed which occurred as a mutation in a litter of Havanas. The Satin mutation deals with fur structure and sheen. It is recessive in character, and outcrossing to another breed of normal fur is not recommended. Nine colors are recognized.

The breed is popular for two reasons. Because of type and size, it is a good commercial breed. Because of its sleek coat with commercial properties, brilliant sheen and rich, vivid colors, it is an excellent show rabbit. Mature bucks weigh 9 pounds; does 9½ pounds.

**Silver Marten** fanciers have a choice of four colors—black, blue, chocolate and sable. Black is the most popular variety. A compact animal with well-filled back and shoulders brings out the desired type of the breed. Never stray from proper body shape. Basic color is as jet black as possible. Blue is a medium shade. A dark chocolate color is called for in the standard, while the sable blends into various shades. All colors should be free from white hair, moult or stained fur. Proper color will bring out contrast with the silver tipped guard hair, which adds much to this breed's beauty. Silver-tipped guard hair should be evenly distributed along sides and rump. In weights, bucks range from 6½ to 8½ pounds; does from 7½ to 9½ pounds.

#### **FANCY BREEDS**

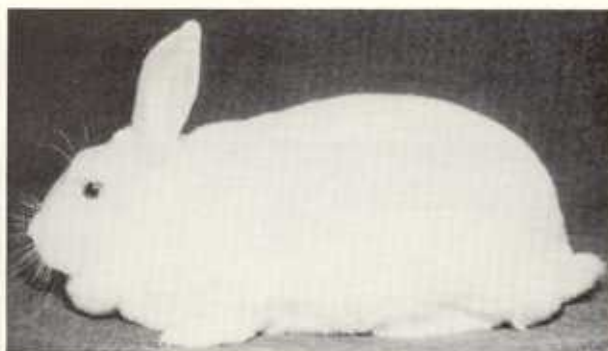
**Polish** is a neat, cobby, sprightly rabbit with well-furred, short ears. The first Polish were all white with ruby colored eyes. Their origin is unknown, but they were probably bred from Dutch or Himalayan.

Polish are recognized in four colors—ruby-eyed white, blue-eyed white, black and chocolate. Polish fur is short, dense and soft, resembling the Himalayan. For this reason, it was known in Germany as the Ermine rabbit.

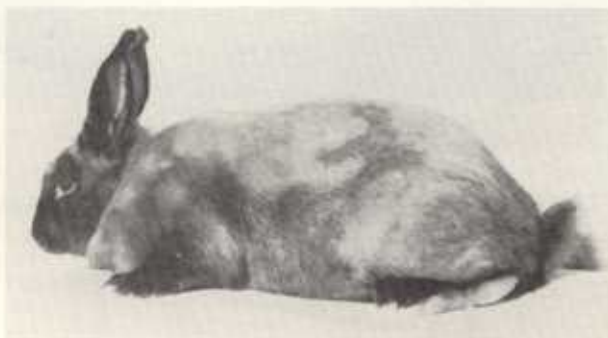
Polish have become so popular in this country that in most shows they rank among the first 10 breeds in numbers exhibited. They are nicknamed "The Little Aristocrat." 4-H'ers can have lots of fun exhibiting this toy rabbit, which weighs 2½ to 3½ pounds.

**English Spotted Rabbit** is the sportsman's rabbit; the beautiful rabbit; the rabbit that challenges the breeder's skill, determination and courage.

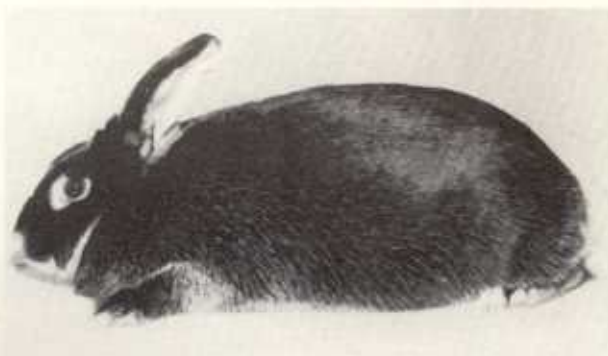
True breeding and careful attention to breeding records mark the real English breeder. Occasionally, a good specimen comes from breeding



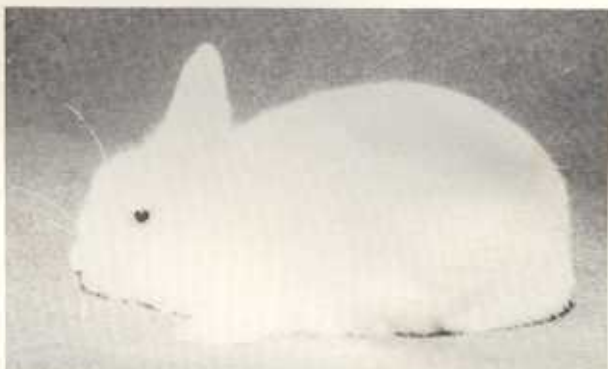
*White Satin*



*Siamese Satin*



*Silver Marten*



*Polish*



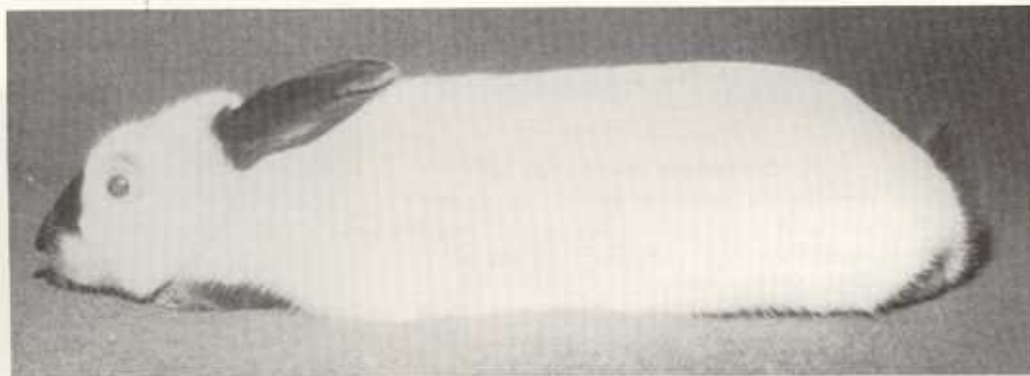


*English Spot*

without thought, but attention to true breeding produces fine ones consistently. Standard weights on English spots follow: seniors, 5 to 8 pounds; juniors, up to 5½. The English comes in six colors: black, blue, tortoise, chocolate, lilac and gray.

**Himalayan** rabbit came from the Himalayan Mountains in Asia, but has long been known as an inhabitant of countries both north and south of the Himalayan range. One of the oldest breeds, it has a wider distribution throughout the world than any other rabbit. Thousands of these rabbits are sacrificed annually in China to the gods who rule crops and fruits of the earth.

The Himalayan characteristics are distinctive — a trim, well-built body covered with short, sleek white fur, ears erect and black, a black nose in the shape of an egg with the small end coming well up between the eyes, black front and hind feet, a black tail and red ruby eyes. One peculiar characteristic of the Himalayan is that it weaves its head from side to side when sitting at ease. Mature animals weigh up to 3½ pounds.



*Himalayan*



*Dutch*

**Dutch**, said to have originated in Holland, was improved and developed for exhibition purposes in England. One of the most fancy popular breeds, it rates tops with rabbit fanciers.

There are six varieties of this breed to choose from, including: black, blue, chocolate, tortoise, steel gray and gray. Because it is a small rabbit, weighing from 3½ to 5½ pounds, the Dutch is ideal for fanciers with limited space. The Dutch is cobby and compact with a well-rounded body, smooth in every respect. Markings of the Dutch, sometimes difficult to achieve, should be clean cut, clear and sharp.



HUTCHES AND EQUIPMENT

**EQUIPMENT NEEDED**

Proper housing and good equipment are important for successful rabbit raising. In making plans, consider first the comfort of your rabbits and ease of handling. A lot of equipment is not necessary, but feeding, watering and nesting equipment must be adequate and sanitary.

**The Hutch**

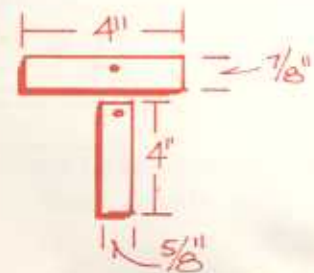
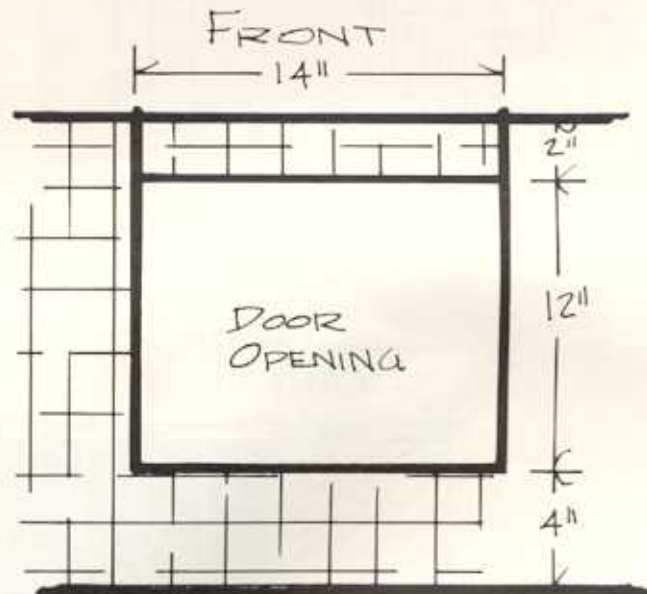
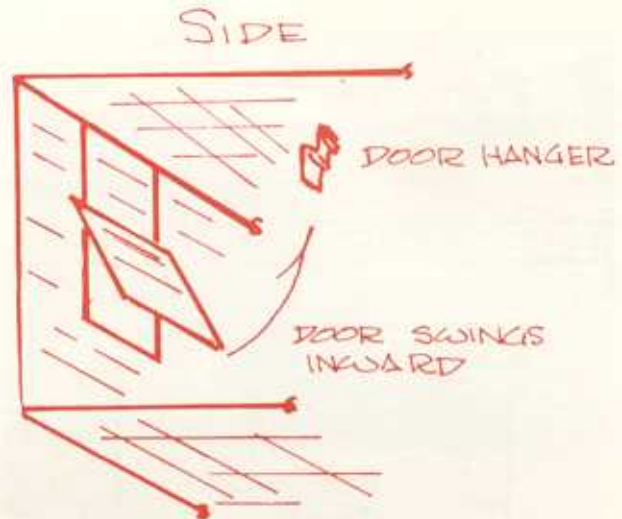
Rabbit pens, called hutches, should be convenient and sanitary, allowing plenty of fresh air and some sunlight. Each hutch should give good protection from bad weather, dogs and other animals and provide enough room for growth and exercise. The most important point to remember in building a hutch is sanitation.

The open-air, self-cleaning hutch is recommended. An open-air hutch has only a single deck or story. The sides and front are covered with 1-inch poultry netting or 1-inch by 2-inch welded wire. Back of the hutch is solid to protect the rabbit from sun, driving winds and rains. Use 3/8-inch or 1/2-inch hardware cloth or 1/2 by 1-inch welded wire for the floor.

Provide one hutch for each mature rabbit. A handy size hutch is 2 1/2 feet deep, 2 feet high and 3 to 4 feet long.

Do not leave sharp points and objects, such as nails or wire, exposed. Use galvanized poultry wire and hardware cloth for the sides, front and bottom. Other types may rust. Always put the smoothest side upward or inward.

Modern rabbit hutch construction uses welded wire fabric. (See figure.) The floor is made with 1/2-inch by 1-inch welded wire. Sides and tops are constructed with 1-inch by 2-inch welded wire. All-wire hutches are more sanitary and durable than wood and wire hutches. They can be hung in an existing building with adequate ventilation, or the breeder can build a new roof for the wire pens. This rabbitry is more attractive and efficient than outside hutches, especially when equipped with outside feeders and automatic water systems. Pelleted rations have eliminated the need for hay mangers in rabbit hutches. Space formerly given to the hay manger can be used to raise more rabbits.

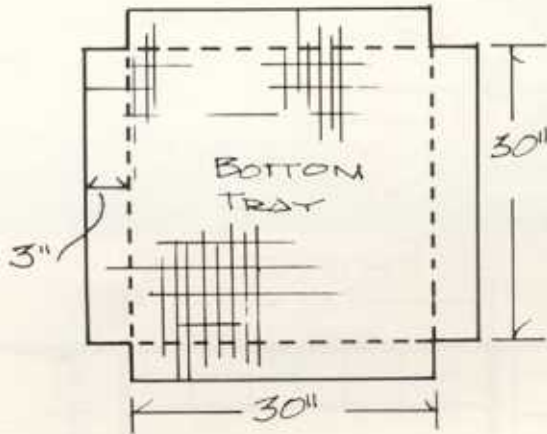
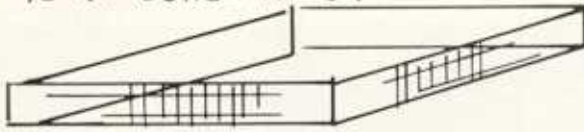


DOOR HANGER





BOTTOM TRAY  
1/2" X 1" WIRE MESH



Nest box plan

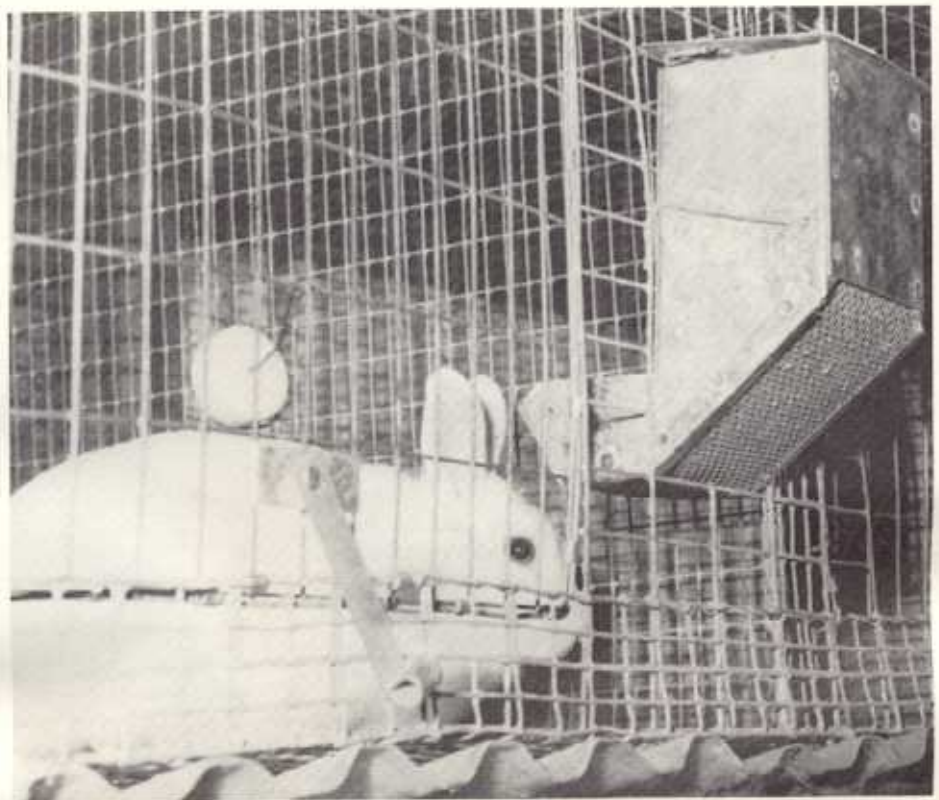
Remember, rabbits are more easily cared for in well-built hutches than in poorly-built, temporary ones. The open-air, self-cleaning hutch helps to keep rabbits cool. This hutch can be kept cleaner and diseases controlled easier. To keep your rabbits from over heating in the hutch, do not place the hutches in direct sunlight. Partial or complete shade is desirable and air movement about the hutches is necessary.

### Feeders

Use a feed crock, trough or hopper to prevent feed waste and keep the feed clean. Since feeding is done daily, or more often, crocks should hold at least a day's feed supply. Larger crocks or troughs may be wasteful because of contamination by rabbits. Crocks especially designed for rabbit feeding can be purchased from your local feed and livestock equipment store. These are not tipped easily and have a lipped edge that prevents animals from wasting feed. The main objection to crock feeders is young rabbits getting into them, soiling the feed.

The outside-mounted, all metal self feeder is most efficient when put onto all-wire pens. Outside feeders are not suitable on outside open-air hutches where rain can spoil the feed.

Outside metal feeder  
on all-wire hutch





Many rabbit breeders use an open box for nesting, particularly in the summer and in hutches protected from the elements. The box should be 16 inches by 10 inches by 8 inches high.

Nail-keg nests are no longer suggested for the beginning rabbit breeder. They were once very popular, but their use has been discontinued in the lumber trade, and they are not available.

In warm weather, provide fresh, clean straw nesting material for the does. If the doe reacts normally to her newborn litter, she will pull enough wool from her body to make a warm nest for her young. However, in winter, you may have to furnish extra nesting material. In this case, fill the nest box so completely with new, clean straw that the doe will have to burrow into it to form a cavity for a nest.

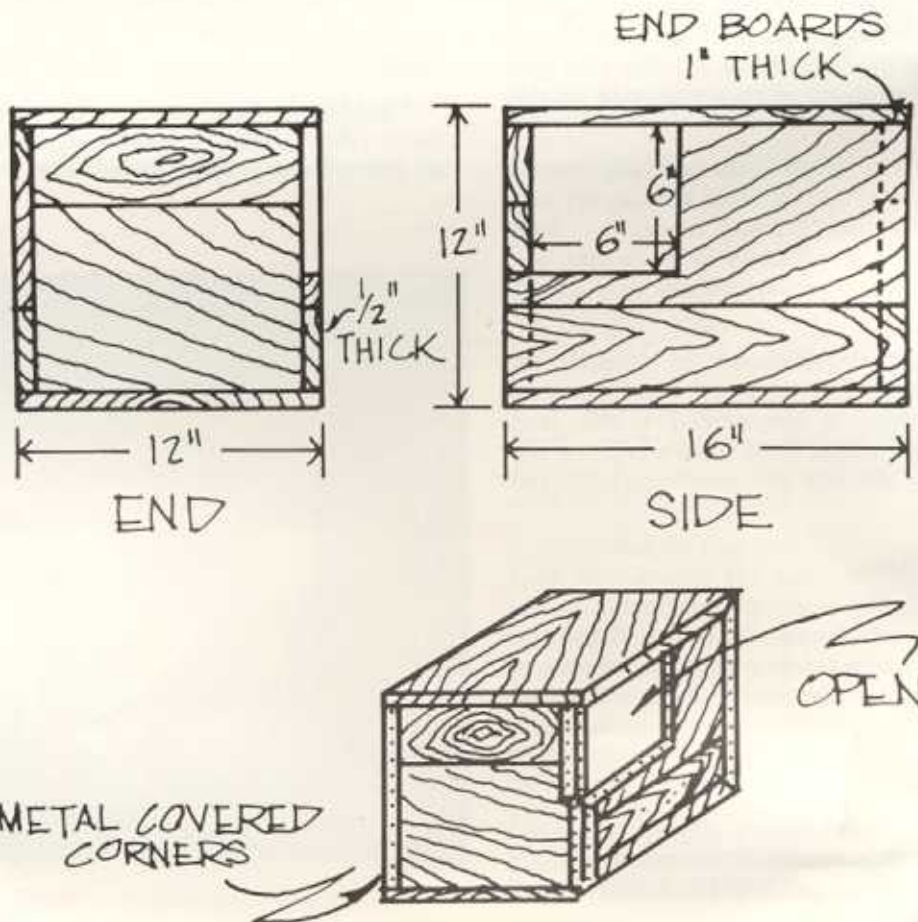
Remember, keep all items of equipment clean and sanitary, and *always* provide plenty of clean, fresh feed, water and nesting material.

**FEEDS AND FEEDING**

Proper feeds and feeding methods are important to success with rabbits. The beginning rabbit grower should feed the kind of feed to which



*Young rabbits in a good nest*



the rabbits have been accustomed. Feed should be changed gradually. *Sudden change makes rabbits sick and may cause death.*

The best way to change feed is to give a small amount of new feed half an hour after their regular ration. Gradually increase the amount, watching for ill effects (soft droppings, bloat, etc.). If no trouble appears within 2 or 3 weeks, use the new feed for the entire ration.



FEEDING RABBITS

Rabbits can eat peas, beans, peanut vines, rape, clover, kudzu and most native grasses with a little grain, mash or pellets added once a day. Root crops, such as sweet potatoes, beets, carrots and turnips also can be fed. *Never* feed sour or greasy table leftovers. Some grains, such as oats, barley, wheat or sorghum grains, may be fed, but they generally present the problem of an inadequate protein intake.

Green feeds and fresh feeds are not recommended for the total ration, since the supply may deplete, making ration changes necessary. Feed quality may be poor at times in these rations, and the variety needed for good nutrition may be difficult to supply.

Condition and development of animals fed exclusively on green feed is never good for show animals. Therefore, a commercial rabbit feed, supplemented, by limited fresh feeds whenever possible, is generally the best and most practical feed.

### Feeding Schedules

Feeding regularity is more important than the number of times rabbits are fed daily. Since rabbits eat mostly at night, late afternoon or evening feeding is preferred. Morning feeding will be less satisfactory. Feed should be offered at the same hour daily. If commercial feed is used, follow manufacturers' directions for feeding.

Mature does without litters, mature bucks and growing young should receive 3 to 6 ounces of feed daily. Feed does with litters all they can eat.



RABBIT SPOOL SALT SHOULD BE IN EVERY HUTCH AT ALL TIMES.

Mature rabbits of medium breeds, weighing about 10 pounds, are kept in good condition by feeding about 6 ounces daily of a complete pelleted ration. Feed smaller breeds 3 to 4 ounces, depending on size. Amounts may vary depending on the animal's condition. Those too fat need less feed; thin ones need more feed.

### Water

Keep clean, fresh water before rabbits at all times. During hot weather, a doe and her young may drink up to 1 gallon of water in 24 hours.

### Salt

Rabbits require more salt than is found in most feeds. Rabbit spool salt is cheap and easy to use. Keep a spool in every hutch.



Automatic dew drop water system



## BREEDING AND KINDLING

Age of bucks and does for first mating depends on breed and development of the animal. Generally, the smaller breeds (up to 8 pounds) can be mated from 5 to 6 months of age. The medium breeds, such as the White or Red New Zealand, can be mated at 6½ to 7 months; and the giant breeds, at 8 to 9 months of age. Growth is more important than age, but it is a mistake to mate rabbits much younger than the ages listed, regardless of size.



After the first litter, the doe can be bred again when the litter is 7 weeks old. If the doe refuses the buck, try again in 3 days. After mating, the doe should be test-mated on the 18th day. Refusal of the buck, whining and attempts to escape, indicate that she is bred.

Always take the doe to the buck's hutch. Mating should occur at once. Allow the buck to service the doe only twice. A second mating in

6 hours may increase the size of the litter. If service is effective, the buck will fall to one side.

Bucks should not be used more often than once every 3 days. However, daily breedings for short periods are satisfactory. Keep bucks where they cannot see the doe.

### Overbreeding

Four litters per year are all a doe should produce. Do not allow her to raise more than eight young to the litter.

### Breeding Failures

Most failures to breed are caused from does being too fat. Excessive heat, especially during the summer, will cause sterility of bucks.

Sometimes a doe will eat the young because of faulty feeding. If the doe receives a wholesome, well-balanced feed, but still eats her young, it is best not to keep her for a breeder.

### Kindling

(Giving birth to young). About 25 to 28 days after a doe has been bred, put the nest box in her hutch. Use 4 or 5 inches of clean straw. Keep your doe quiet. Loud noises often cause a doe to miscarry.

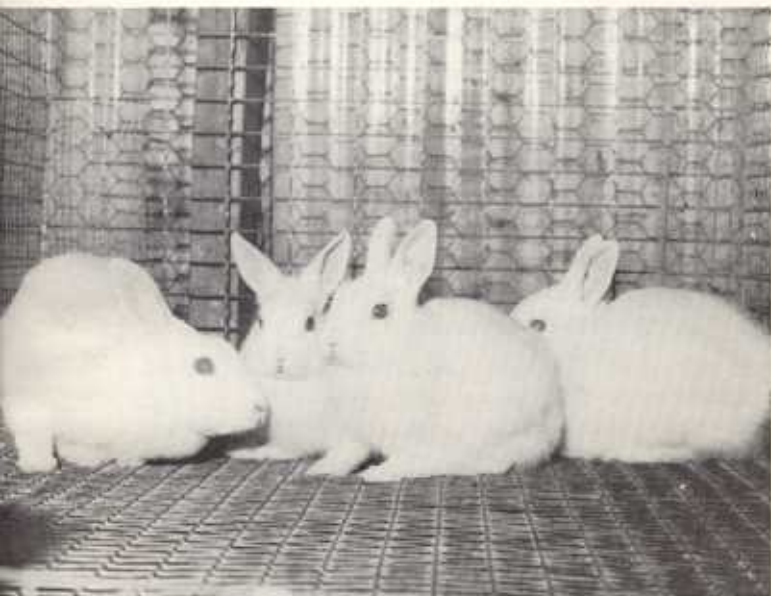


DO NOT LEAVE MORE THAN 8 BABY RABBITS WITH THE MOTHER.

Young are born on the 32nd day. Gently check new babies and remove dead ones after the doe has kindled. The doe will cover the young with fur from her body.

The doe is the best caretaker of her young. Each day during the summer, after she has kindled, attract her attention with some feed or by stroking her with one hand. Use the other hand to examine the nest and take out any dead young. It is also advisable to remove all but seven or eight. If the doe nourishes too many young, runts and weaklings result. Surplus young may be moved to does with small litters of equal size and age.

Just before kindling, the doe may eat little. Be sure she has plenty of fresh water. After she



*A Polish doe and litter at weaning age.*



kindles, feed sufficiently to supply necessary nourishment for her and milk for the young. In addition to heavier feeding of the regular ration, carrots, rolled oats or Calf Manna are beneficial.

### *Nursing*

The doe gets into the box early in the morning and again late in the evening for about 1 minute to feed the young. Well-fed babies are sleek, clean, fat and well-filled most of the time. Have no fear that they are starving; most rabbits are excellent mothers. Young rabbits are about 1 week old when their eyes open and fur appears.

### *Weaning*

When the young rabbits are about 3 weeks old, they come out of the box and eat with their mother. Weaning should not be done until the young are 8 weeks old. They should be butchered immediately.

Prospective breeders can be left with the doe a few days, although it is not necessary beyond 8 or 9 weeks. The doe can be rebred a week before weaning the litter.



## GOOD SANITATION PRACTICES

### *SANITATION*

It is important to keep rabbits in a clean and sanitary environment. This means removing wastes and keeping housing, feed, water and air relatively free of disease germs and parasites. Sanitation and disease prevention are the key to a healthy rabbitry.



IN THE SUMMERTIME NEWLY BORN RABBITS SHOULD BE PLACED IN A WIRE BASKET WHERE IT IS COOL.

### *Quarantines*

The best rule in disease prevention is to start with healthy animals from a reliable breeder. The history of disease in a colony of rabbits is as important as the state of health of individual animals at the time of purchase. Ask the breeder whether his rabbits have had specific diseases. In this way you will avoid buying disease "carriers" that transmit diseases without showing symptoms.

Quarantine all new animals brought to an established colony (keep them at least 50 feet from all other rabbits) for at least 2 weeks. Experienced rabbit raisers with healthy colonies buy few rabbits, since each addition brings a risk of adding new diseases.

### *Housing*

Houses should be well ventilated and easy to clean. Thoroughly clean all hutches of manure and debris daily. Clean open feeders and waterers daily and closed feeders weekly.

Clean nests and disinfect before kindling and after the nest box is removed from the hutch. Change bedding when wet or contaminated with urine or droppings. Burn or bury all used nesting material.

### *Cleaning and Disinfecting*

Clean all manure and dirt from equipment. Scrub with hot water and detergent. A stiff bristled brush, scraper and elbow grease is the secret of proper cleaning.

### *Visitors*

Keep your animals as isolated as possible from people and strange animals. They bring diseases and disturb the breeding stock unnecessarily.



## **DISEASES, PARASITES AND ILLNESSES**

### ***How to Detect Illness***

A good husbandman can tell a sick animal through frequent and careful inspection. Identification may not be easy for the beginner but comes with experience.

Examine animals daily. Note the rate of food and water consumption, and the nature and quantity of fecal excrement. Color, fur condition, brightness and condition of eyes, locomotion, breathing, nasal discharges and ear carriage are indications of health.

Isolate sick animals until recovered. Do not handle sick animals until after caring for healthy ones.

Burn or bury dead animals. Thoroughly clean and disinfect all contaminated hutches and equipment as soon as possible.

When diseases occur, consult your veterinarian, and ask first whether treatment will be a practical and economic procedure. Be sure he knows the true economic value of animals involved, so he can recommend treatments. You can take a sick animal to the veterinarian's office, but sometimes he may want to visit your colony.

Diseases are caused by living organisms, such as bacteria, protozoa, fungi and viruses. Some organisms may be present in healthy animals and do not cause illness unless the animal's resistance is lowered. Other organisms make the animal sick immediately. An animal's resistance can be lowered by drafts, heat, cold, over-feeding, being frightened, over-handling, sudden changes of environment and feeding practices, crowding and poor nutrition. These are sometimes called "predisposing causes" or "stress factors."

Different diseases may cause similar symptoms or conditions. Since the unskilled eye can not determine seriousness, losses could be severe before proper treatment is administered. Contact your veterinarian when doubtful about the illness, when deaths occur suddenly or when illness persists. Also, consult with your veterinarian before your animals are sick for advice on added disease control practices important in your area.

## **DISEASES**

### ***Colds or Sniffles (Rhinitis)***

**Cause:** Bacteria, viruses or allergies.

**Predisposing causes:** Drafts, exposure to heat or cold, poor ventilation, dietary deficiencies or other stress factors.

**Symptoms:** Sneezing and a runny nose are the main symptoms. Nasal discharge may be watery to thick. The animal wipes its nose with the front paws, causing wetting or matting of the fur on the paws. The eyes may run and often temperature is below normal. Animals suffering from sniffles often develop pneumonia.

**Control and Treatment:** Remove infected animals from the rabbitry and isolate. Commercial nose drops, used for other animals or human beings, containing either sulfathiazol, tetracycline, or oxytetracycline, are beneficial. Apply 2 or 3 drops in each nostril morning and night.

### ***Pneumonia***

Pneumonia is an inflammation of the lungs and accompanies many diseases. Sometimes it occurs as a primary disease.

**Cause:** Bacteria, virus and foreign substances.

**Predisposing causes:** Chilling, other infections, inhalation of gases and liquids, parasites, poisons, etc.

**Symptoms:** The animal doesn't eat and has difficulty breathing; body temperature generally is elevated; and the head may be extended to relieve breathing. Death may occur soon after illness begins.

**Treatment:** It is necessary to have an accurate diagnosis before treating pneumonia. A number of drugs, such as sulfa drugs and antibiotics, are useful in hastening recovery.

### ***Enteritis and Scours***

Scours or diarrhea generally are a symptom of some intestinal infection (enteritis) caused by parasites, bacteria, viruses, incorrect feeding, poor digestion or poisons.

**Symptoms:** Droppings range in consistency from semisolid to liquid; blood may or may not be present. There is a foul odor, and the hair around the tail and back legs is soiled or matted. If diarrhea is not checked in a short time, the animal will lose its body fluids and salts and become emaciated. The fur will have a ruffled and dull appearance.

**Treatment:** Correct treatment for enteritis depends on its cause. If caused by parasites, these should be removed with proper drugs. A laxative such as castor oil may be used in case the enteritis has resulted from moldy or musty feeds. Drugs such as bismuth sub-nitrate, kaolin, antibiotics and pectin, used for diarrhea in puppies and children, may be used for rabbits, although treatment seldom is successful.



### *Nose and Face Scabs (Facial Dermatitis)*

**Cause:** Bacteria and fungi.

Bacteria and fungi infect inflamed and irritated areas around the nose and face. The inflammation and irritation may be caused by secretions from a runny nose, bites, external parasites, rubbing the nose with the feet, gases from dirty pens, etc.

**Treatment:** Antibiotic injections may be helpful in this condition. Medication put around the mouth usually is licked off or rubbed off with the paws. Eliminate cause of irritation.

### *Caked Udders (Edema)*

Caked udders may develop just before kindling, right after weaning or any time between kindling and weaning. Edema is a hardening of the udder due to an accumulation of fluids in the tissue. The udder hardens, swells and is painful to the animal when touched.

**Treatment:** Apply hot towels over the udder or massage and try to remove some of the milk. If baby rabbits are nursing, be sure they are well and removing the milk.

### *Mastitis*

**Cause:** Bacteria and fungi.

The udder becomes swollen, hot and sore to the touch, with a caked udder. Infection gets into the udder through the teat canal. Injuries and irritation from a caked udder may be predisposing causes for mastitis.



**A BOARD IN PEN  
PREVENTS SORE HOCKS**



**WATCH FOR EAR CANKERS!**

**Treatment:** Antibiotic injections are the best known treatment. If abscesses form and rupture, treat locally with an antiseptic such as tincture of iodine.

### *Abscesses and Sore Hocks (Arthritis)*

Abscesses may be caused by bacteria or an infection getting into the blood stream causing abscess anywhere in or on the body. Abscesses may form after cuts, bites or any type of abrasion where an infection may gain entrance to the skin and subcutaneous tissue. Sore hocks are often caused by constant exposure to wire floors or hard floors with no bedding.

**Treatment:** Open the abscess and drain; clean it thoroughly with clean water; then apply an antiseptic such as tincture of iodine.

### **INTERNAL AND EXTERNAL PARASITES**

Rabbits, like other animals, become infested with both internal and external parasites. The main parasites that are found outside the body are ear and mange mites. Both are microscopic in size.

#### **Ear Canker**

**Cause:** Ear mites.

**Symptoms:** The animal shakes its head, holds it to one side and scratches at its ears. Later the ear becomes infected. If not treated, this will build into a moist exudate with crusts or scabs inside the ear, sometimes extending to the outside.

**Treatment:** Swab and remove as much debris as possible. Remove scabs from the sores and pus from the bottom of the ear. Apply a solution of



1 part iodiform, 10 parts ether and 25 parts olive oil with an eye dropper, saturating thoroughly the inside of the ear and all sores or scabs.

Olive oil alone may be used if the other two products are not available. Ear mites may also be controlled by using tick and flea powders that are used for dogs and cats. Sprinkle powder into the ear after the ear has been thoroughly cleaned.

Ringworm, caused by a fungus, is seen as circles of hairless spots or grayish scaly areas. Treat with tincture of iodine. Clean hutches thoroughly every day when external parasites are present.

When good sanitation is practiced, internal parasites generally are not a problem. If they do occur, seek advice from your veterinarian on what type worm is present and proper treatment. Preventive measures consist of keeping hutches dry and clean and controlling flies and mosquitoes in the area. Keep dogs and cats and other pets away from the rabbitry. Do not let them sleep on feed sacks or material to be used in hutches.

### **Coccidiosis**

Coccidiosis, a parasitic disease, causes damage to both the intestinal tract and liver. It is caused by protozoa, which can be seen only under a microscope. A veterinarian's advice is needed for treating this condition.

## **OTHER PROBLEMS**

### **Slobbers**

**Cause:** Slobbers may be caused by excessive amounts of green food or green feed to which young rabbits are unaccustomed. It may also be caused by sniffles, coccidiosis or bad teeth.

**Treatment:** Treatment depends on the cause. If too much green feed has been fed, cut down on amount. If irregular feeding of green feed caused the condition, give green feed daily. If due to bad or long teeth, correct this condition by either removing bad teeth or cutting off long teeth.

### **Cuts and Wounds**

Hair should be clipped around wounds. Clean the wound, then apply an antiseptic such as merthiolate. If the wound is deep and wide, stitches may be necessary.

### **Long Front Teeth (Buck Teeth)**

The large front incisor teeth should meet at a correct angle to wear evenly. In some cases this does not occur, and the animal has difficulty eating.

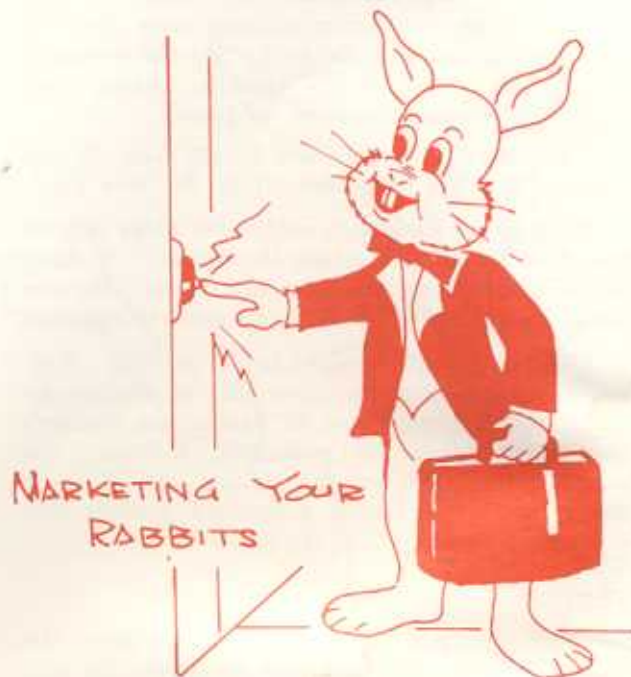
**Treatment:** The teeth should be cut off even with others. They may be cut with diagonal cutters (many times ordinary wire cutters will be adequate), and sharp edges filed down with an ordinary file. Do not keep these animals for breeding, since buck teeth may be inherited by offspring.

## **PROCESSING FOR MARKET AND HOME USE**

4-H'ers may dispose of their rabbits in four ways — sell live rabbits to a processor for slaughtering; process them for direct sale; process them for home use; or sell them as pets or breeders. Each 4-H'er should go into the project with the main thought of selling rabbits for meat and fur, rather than for pets or breeding. Make arrangements for selling meat rabbits to a processor before fryers are ready for market.

### **Crating and Transporting Live Rabbits**

Most rabbits will probably be sent to market live. Rabbits in good condition, properly crated, can be transported safely, but should not be exposed to extremely hot or cold conditions. Good ventilation is important. Avoid overcrowding. Although having individual shipping compartments is better, 4-H members transporting rabbits for relatively short distances will probably use shipping crates made from packing boxes. As the project grows, permanent shipping crates should be provided.





## ***Slaughtering and Skinning***

Slaughtering for market should be done in a clean, sanitary place free from dust and flies. Fasten a board horizontally to the wall but far enough away so that the rabbit does not touch the wall. About 8 to 10 inches apart, put two small meat hooks on which to hang the rabbit. Provide some type of container beneath the rabbits to catch the blood, head and entrails. Running water also should be available. All persons slaughtering rabbits for market should check with the county health department about local regulations.

4-H'ers profit by visiting a rabbit slaughtering plant before undertaking slaughtering on a large scale. However, the work is generally done as follows:

Stun the rabbit by a heavy blow at the base of the skull (behind the ears) and hang the rabbit up with the hooks inserted between the tendon and bone of the hind legs, just above the hock. Some processors use a single hook.

Cut the head off and let the rabbit bleed thoroughly so the meat will have a good color. Do not let blood get on the pelt.

Remove the tail and cut off the front feet. Then cut the skin just below the hocks and open it on the inside of the leg to the root of the tail. Loosen skin around the hind legs and peel the fur over the legs, hind quarters and body.

Open the carcass down the middle of the abdomen with the knife, starting near the tail and opening through the neck. Do not puncture the entrails. Remove the entrails, leaving liver (with gall bladder removed) in place.

Take particular care not to get hair on the carcass. Cut the hind legs off at the hock joint.

Rinsing the carcass in cold water helps remove hair and blood and cleans the carcass. Soaking rabbit meat gives it a blanched color. Do not leave the carcass in water more than 15 minutes.

Chill carcasses overnight before cutting. Rabbits should be cut up, according to market demand: U. S. Department of Agriculture Farmer's Bulletin Number 2131, "Raising Rabbits," can supply information on this subject. In all cases, use great care to assure a finished product that is thoroughly clean and attractive.

## ***Pelts***

After the pelt or skin is removed from the carcass, remove all flesh and fat from the skin with a dull knife, being careful not to cut the skin. Do not cut the skin open. Place the pelt

while still warm on a wire stretcher, tail end first, and adjust so as to have the four legs on one side of the stretcher and the back straight and even on the other side, flesh side out, fur in. Draw the pelt tight but do not stretch.

Use a cool, screened room for drying. Do not dry in the sun. Make sure there are no wrinkles in skins and see that front legs are pulled out properly.

After pelts are thoroughly dried, remove from stretchers. Market conditions determine whether curing pelts is worth the trouble involved.

## ***SELECTING, GROOMING AND SHOWING***

Generally, 4-H members should not raise rabbits for show only. Rather they should select the best animals from their herd.

Successful rabbit raising begins with purebred foundation stock. Rabbits for show should be from purebred parents of a breed recognized by the American Rabbit Breeders Association in their Standards of Perfection. Crossbred or mixed rabbits should be avoided because they cannot be shown, and they vary so much, it is best to invest in the best stock available.

For showing, select the best rabbits according to the standard for the breed. Study the show rules, regulations and classifications carefully before taking a rabbit to a show. Show rules impose strict requirements on weight, color, size and age of rabbits entered. Although pedigrees are not usually required, good records make good rabbits even more valuable for show and meat production.

You can learn a lot about showing rabbits from observation. Some pointers you should know include:



**SHOWING YOUR  
RABBITS!!**





1. Select best rabbits for showing. Do this early, allowing time for conditioning.

2. Begin working with your rabbit at least 6 weeks before a show. Brush with a soft brush and rub the hair coat with your hands to get out old, dead hair and give the rabbit a shiny new coat. This also helps gentle the rabbit. At this time you should also teach the rabbit how to sit on a table. The judge will not waste time with a rabbit that jumps around on the show table.

### SOURCES OF INFORMATION

#### Magazines:

1. *Small Stock Magazine*. Pierce City, Mo. 65723
2. *National Rabbitman Magazine*. 241 W. Snelling Ave., Appleton, Minnesota 56208.

#### Bulletins & Books:

1. Casady, R. B., P. B. Sawin & J. Van Dam. *Commercial Rabbit Raising*. Agri. Handbook 309, USDA-ARS. U. S. Government Printing Office, Washington, D.C. 20402.
2. *American Rabbit Breeders Association Official Guidebook*. 4323 Murray Ave., Pittsburgh, Pa. 15217.
3. *Raising Rabbits for Profit*. Albers Milling Company, 800 W. 47th Street, Kansas City, Missouri.
4. *Standard of Perfection*. American Rabbit Breeders Association, 4323 Murray Ave., Pittsburgh, Pa. 15217.
5. Templeton, George S., *Domestic Rabbit Production*. The Interstate Printer & Publishers, Danville, Ill.

3. Read all rules and regulations about the show. Ear canker, sore hocks and other abnormalities disqualify a rabbit.

Tattoo your rabbit properly for identification before the show.

5. When arriving at the show, check your entry with the show superintendent or secretary. Usually, the exhibitor does not have to feed or care for the rabbit during the show. The show committee will take care of your rabbits and take them to the judging table, but you may be asked to help.

6. As the judge examines the rabbit, information about the rabbit is written on the official record. This information usually is also recorded on the back of the card attached to the pen. A paper sticker showing the rabbit's placing is usually placed on the front of the card.

7. Be present when your rabbits are being judged to learn from the judge's comments.

8. In judging rabbits, classification of the American Rabbit Breeders Association usually prevails. 4-H members who show rabbits regularly would profit by a copy of this association's official Guide Book and Standard of Perfection.

Members of the local Rabbit Producers Association or 4-H leaders can also provide information. In most shows, classes are provided for the following: Senior Doe, Senior Buck, Intermediate Doe, Intermediate Buck, Junior Doe, Junior Buck, Pre-Junior, Meat Pen and fur classes.



## **QUICK REFERENCES - DO'S AND DON'TS**

### **DO:**

1. Keep hutches clean.
2. Wash water crocks at least once a week.
3. Put the nest box in the hutch 3 or 4 days before the doe is supposed to kindle (have babies).
4. Leave all the doe's babies with her for 48 hours, then cut litter to 7 or 8.
5. Furnish fresh water every day.
6. Keep salt in front of your rabbits all the time.
7. Keep 1 buck for each 8 to 10 does.
8. Watch your animals carefully. If they get too fat, cut down on the feed. If they get too thin, increase the feed.
9. Watch for ear mites. A rabbit with ear mites will lose weight.
10. Watch closely for sore hocks. They also will cause loss of weight.
11. Always lift a rabbit by a fold of skin behind the neck, over the shoulder, supporting the hind quarters with your other hand. Never lift a rabbit by the ears alone.
12. Keep your rabbits out of drafts and dampness.

### **DON'T:**

1. Raise 4-H rabbits as pets only.
2. Breed rabbits that are in poor flesh condition.
3. Breed your does too young. Small breeds may be bred at 5 to 6 months; medium breeds at 6½ to 7 months; giant breeds at 8 to 9 months, depending upon development.
4. Allow your rabbits to be in sunlight for long periods of time.
5. Use a buck under 6 months of age.
6. Overfeed your rabbits.
7. Let your rabbits get overfat. They will not breed in this condition.





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