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4-H Bulletin 189

4-H-Youth Programs



MICHIGAN 4-H RABBIT PROJECT



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4-H RABBIT MANUAL

by

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YOU AND YOUR PROJECT

This manual covers the 4-H rabbit program for a year's operation. The same practices for raising your rabbits will apply for any future years you are carrying a rabbit project.

If conditions are favorable, you can expand your rabbitry by increasing the number of breeding animals each year you are in club work. In some cases it may be possible to take over the management of your parents' rabbitry.

THE PURPOSE OF A 4-H RABBIT PROJECT

Domestic rabbit meat production is an important industry in the United States and it is popular in many sections of the state. Rabbits make an excellent project for 4-H club members because only a small amount of space and a moderate amount of money is necessary.

The purpose of the manual is to guide you in some of the fundamental practices necessary for a successful rabbit operation. By following the recommended practices, the club member can become a successful rabbit producer.

THE OBJECTIVES OF THE 4-H RABBIT

PROJECT ARE:

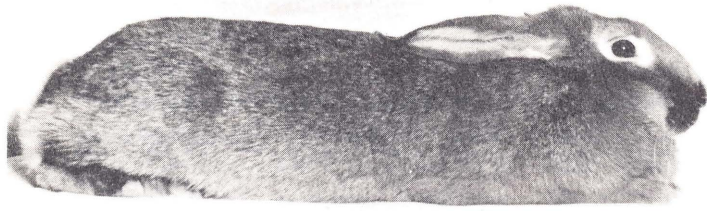
1. To learn and practice better methods of raising rabbits.
2. To develop initiative and responsibility in your work.
3. To economically produce protein for home consumption.
4. To learn fundamentals of business transactions.
5. To learn record keeping.
6. To make a profit.

PLANNING THE 4-H RABBITRY

CHOOSING THE BREED

One of the first things you will want to do is select the breed of rabbits you will raise for your 4-H project. If your parents have a rabbitry or if you have some rabbits of your own, you may not have the problem of selecting stock. Photos 1, 2, 3, 4 and 5 (Courtesy of U.S. Dept. of Agriculture) are representative samples of only a few popular breeds. Table 1 is a listing of all the standard breeds and varieties of rabbits as recognized by the American Rabbit Breeders' Association. Table 1 also provides you with basic information as to the ideal size and utility value of the various breeds among which you may select.

Hybrid strains or crossbred rabbits are not listed in this manual, but are becoming more popular each year. They are worth consideration for maximum meat production and profit potential, but they are not generally shown. One challenging learning experience is that of showing your project stock, therefore, you will be best prepared for showing if you own pedigreed rabbits eligible for registration. Don't think just any type of stock is suitable.



NEW ZEALAND RED

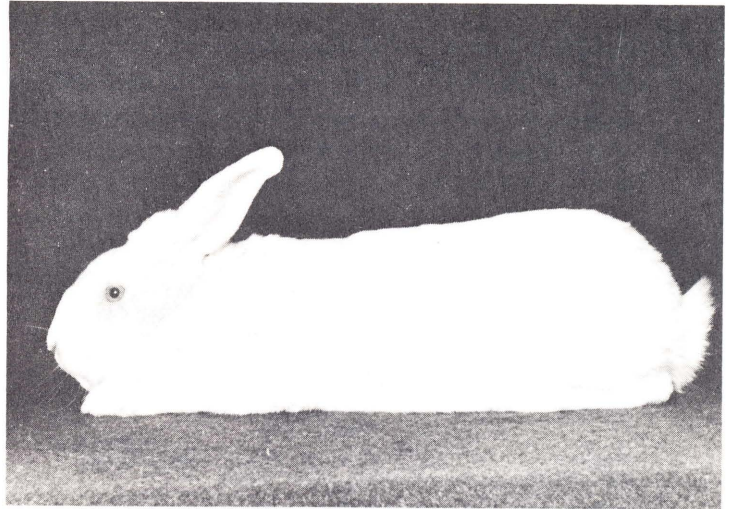


PHOTO 1

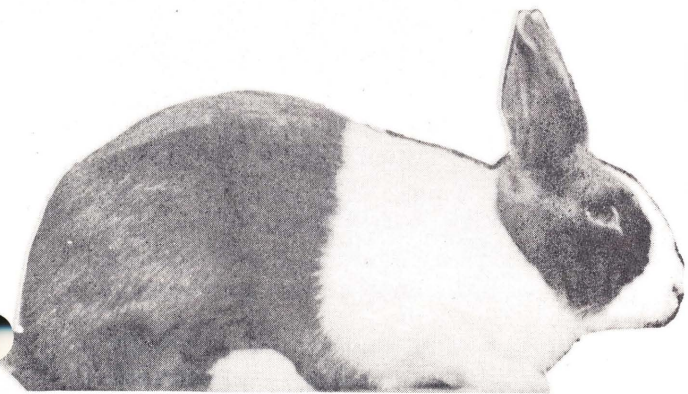
NEW ZEALAND WHITE

PHOTO 2



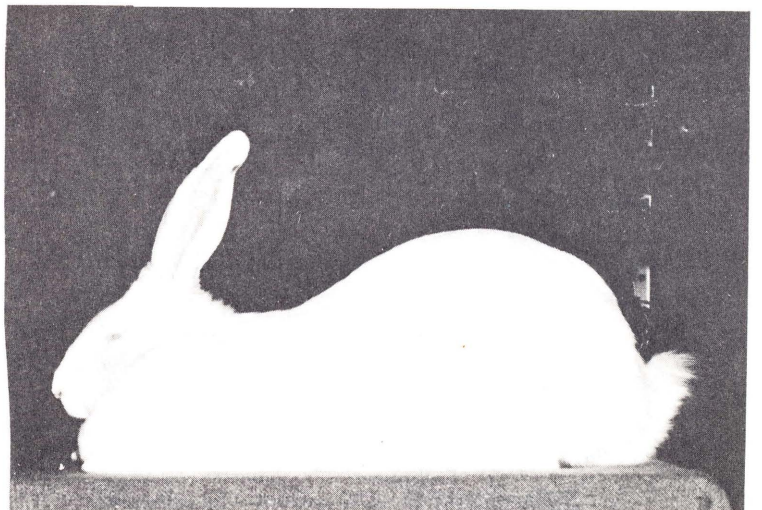
CALIFORNIA

PHOTO 3



DUTCH

PHOTO 4



WHITE FLEMISH GIANT

PHOTO 5

TABLE 1

STANDARD BREEDS AND VARIETIES OF RABBITS
(As recognized by American Rabbit Breeders' Association)

| Breed | Variety | Ideal | | Utility Value & Show Popularity | | |
|----------------------|---|------------------------------|-----------------------------|---------------------------------|-----------|-----------------|
| | | Mature Weight (Lbs.) Buck | Mature Weight (Lbs.) Doe | Meat | Fur | Show Popularity |
| American | Blue, White | 9 | 10 | very good | very good | fair |
| Angora | English, White, Black, Blue, Fawn | 6 | 7 | small | fine wool | fair |
| Angora | French, White, Black, Blue, Fawn | 8 | 8 | good | fine wool | fair |
| Belgian Hare (Light) | | 8 | 8 | very good | fair | fair to good |
| Beveren | White, Blue, Black | 9 | 10 | good | good | good |
| Californian | | 9 | 9½ | very good | good | very popular |
| Champagne D'Argent | | 10 | 10½ | very good | very good | good |
| Creme D'Argent | | 9 | 10 | good | good | fair |
| Checkered Giants | Black, Blue | 11, up | 12, up | good | good | fair to good |
| Chinchilla Standard | | 6½ | 7 | good | very good | popular |
| Chinchilla American | | 10 | 11 | very good | very good | fair & growing |
| Chinchilla Giant | | 13-14 | 14-15 | very good | very good | fair to good |
| Dutch | Black, Blue, Chocolate, Tortoise, Steel Gray, Gray | 4½ | 4½ | small | small | good to popular |
| English Spot | Black, Blue, Chocolate, Gold, Gray, Lilac, Tortoise | 6 | 7 | small | fair | fair to good |
| Flemish Giant | Steel Gray, Light Gray, Sandy, Black, Blue, White, Fawn | 14, up | 15, up | very good | very good | popular |
| Florida White | | 5 | 5 | small | good | fair |
| Havana | Blue, Chocolate | 6 | 6 | small | very good | popular |
| Harlequin | | 6-8 | 6-8 | fair | very good | fair to good |
| Himalayan | | 3½ | 3½ | small | very good | fair |
| Lilac | | 6-7 | 6½-7½ | small | very good | good |
| Lop | English, French | 10, up | 11, up | very good | fair-good | not popular |
| Netherland Dwarf | | 2 | 2 | small | poor-fair | new |
| New Zealand | White, Red, Black | 10 | 11 | excellent | very good | very popular |
| Palomino | | 9 | 10 | very good | very good | fair & growing |
| Polish | | 2½ | 2½ | small | very good | fair |
| Rex | Black, Blue, California, Castor, Chinchilla, Chocolate, Lilac, Lynx, Opal, Red, Sable, Seal, White | 8 | 9 | very good | good | fair |
| Sable | | 8 | 9 | good | good | not popular |
| Siamese Sable | | 5-7 | 5-7 | fair | good | not popular |
| Satin | White, Californian | 9½ | 10 | good | very good | fair to good |
| Silver Fox | | 10½ | 10½ | good | good | fair |
| Silver Marten | Black, Blue, Sable, Chocolate | 7½ | 8½ | good | good | good |
| Tan | Black, Blue, Chocolate, Lilac | 4-5 | 4½-5½ | small | fair | good |

BASIS FOR SELECTION

Since you most likely may be called a beginner, it is important to choose a breed which is popular and for which there is a good market.

Plan to start with one breed; it will be much easier to learn the characteristics and requirements of only one breed rather than of several. After you become skilled in the management of one breed, you may find it challenging and profitable to raise other breeds.

Buy from a reputable rabbit breeder. If the breeder lives near your home, you should be able to go and select the animals after examining his records in order to select individuals from good genetic stock and not only on the rabbit's phenotypic* appearance.

It is best to start with good pedigreed stock or stock which is eligible for registration (Purebred). The stock should be sound, healthy and vigorous. It is advisable for beginning rabbit raisers to obtain young stock (3-4 months) in order to learn how to handle and become acquainted with the rabbit. It pays to raise good quality rabbits. National, state and local rabbit breeder's organizations can furnish the names and addresses of breeders from whom good quality stock can be purchased. Contact your local club leader or Extension agent for this information.

CONSIDERING THE MARKET

When considering the breed you will raise, keep markets in mind

1. The kind of market you will have.
2. Is it a good market for rabbit meat, fur or wool, laboratory rabbits, and/or breeding stock?

MEAT RABBITS – It is usually best to consider rabbit meat as the most important product.

FUR OR WOOL – The fur and wool market varies from year to year and reasonable acceptable markets do not exist in all areas.

LABORATORY RABBITS – Laboratories, hospitals, universities, and research organizations are increasing their demand for laboratory rabbits. This could be an important market for raisers living near such facilities.

*Refer to the glossary in back of manual for definitions of words on terms that may be new to you.

BREEDING STOCK – If you would like to sell breeding stock, select the breed for which there is a popular demand. Start with good stock eligible for registration, keep accurate pedigree records, and select and register only the better animals among those that you have available.

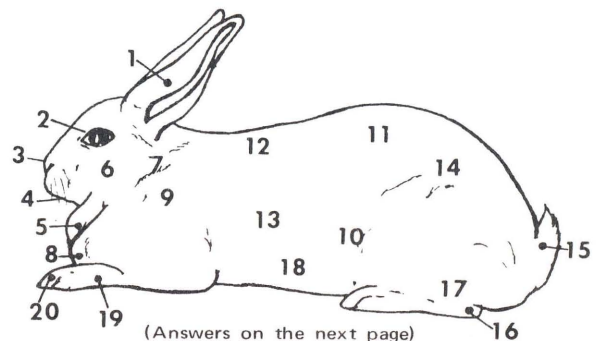
SELECTING INDIVIDUALS

When you select any young individual doe or buck for your breeding program, keep in mind –

1. Performance of two generations of ancestors:
 - a. Dam and granddam's ability to bear and rear litters of 7 to 8 on the average and 4 to 5 litters per year.
 - b. Sire and grandsire's ability to produce litters of 9 to 10 on the average.
2. Profitable stock must have 8 or more teats.
3. Individual rabbit's health and vigor.
4. Freedom of faults or disqualifications.
5. Breeds true to type and color. Pedigreed stock (eligible for registration).
6. A potentially good year-round breeder.
7. Breeds demanded by the market.
8. Meat breeds:
 - a. Market weights and desirable plumpness reached at an early age (8 weeks).
 - b. High dressing percentage with a large percentage of the best meat cuts (loin and legs).
 - c. White meat and fat, fine-grained, firm and of good flavor.

KNOW THE PARTS OF A RABBIT

Can you name the parts of the rabbit diagramed below:



You should learn the terms used by rabbit breeders and be able to identify all the different parts of a rabbit.*

- | | |
|---------------------|------------|
| 1. Ear | 11. Loin |
| 2. Eye | 12. Saddle |
| 3. Nose | 13. Ribs |
| 4. Mouth | 14. Hip |
| 5. Dewlap(doe only) | 15. Tail |
| 6. Cheek | 16. Hock |
| 7. Neck | 17. Leg |
| 8. Chest | 18. Belly |
| 9. Shoulder | 19. Foot |
| 10. Flank | 20. Toes |

DESCRIPTIVE RABBIT TERMINOLOGY

Learn and use common terms of the rabbit industry when you discuss your rabbit project activities. The A.R.B.A. (American Rabbit Breeders' Association, Inc.) glossary with supplements by the author of this manual is provided for your reference and learning experiences. Learn to use the glossary and start now by defining each of the following:

- Snuffles_____
- Litter_____
- Elimination_____
- Cobby_____
- Condition_____
- Spraddled legs_____
- Disqualification_____
- Fly Back_____
- Kindle_____
- Wolf Teeth_____
- Faults_____

*Check the glossary in back of this manual.

HOUSING AND EQUIPMENT FOR YOUR RABBITS

HUTCHES

Most 4-H projects will start small in terms of the number of rabbits and capital investment in the rabbitry; consequently, outdoor hutches must be considered suitable and practical. As your interest, experience, and knowledge increase, you may develop a desire for a larger scaled hobby or become interested in the commercial aspects of raising rabbits.

In this event the use of sheds or totally enclosed fan-ventilated housing may be of importance to you. For information and help in this area many commercial companies can advise you, however, I recommend you see a few large operations and visit with some commercial rabbit raisers before you make major commitments for growth and expansion. Growth in your business must be based on a developed satisfactory marketing program.

Success or failure with a rabbit-raising project may depend upon the kind of cage you use. Rabbits are more easily cared for in all-wire cages than in poorly constructed temporary ones. Some things to keep in mind are:

1. A cage should be convenient for the caretaker, easy to clean and arranged so you can care, feed and water the animals quickly.
2. A cage should be constructed for the comfort of the rabbits. Even though sunlight is an excellent disinfectant, it should not be allowed to shine on rabbits because it bleaches out fur color except for the all-white rabbits. Bleaching will result in faults or a cut for poor fur color by the judge at the time of showing.
3. The ideal cage should have an all-wire floor. Use 1/2" x 1" 14 guage wire as it seems to contribute least to sore hock problems. A cage of 14 guage wire is strong enough to support a 12-14 pound mature doe and her litter in a 30 x 30" cage. Photo 6 shows a cage bottom for an outdoor hutch.
4. The ideal cage should have wire sides, top and front of 1 x 2" 14 guage wire or 1/2 x 1/2" hardware cloth. The choice of wire for these uses depends largely upon price and availability of material. Photo 7 shows wire of choice for outdoor cage fronts.
5. Many variations in cage size exist and each may be successfully managed. Photo 8 shows a 3-hole hutch with each cage being 29 x 31". This will be quite satisfactory for

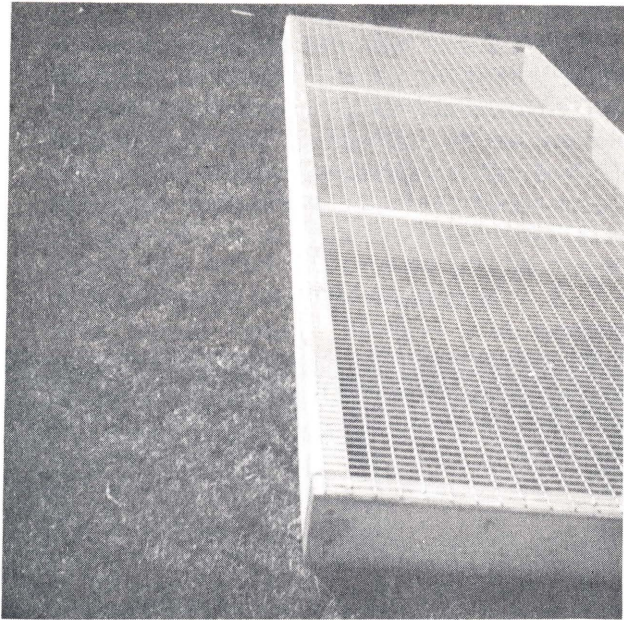


PHOTO 6
Cage Floor for Rabbits. Use $\frac{1}{2}$ " x 1", 14 gauge wire 30" wide and 8' long.

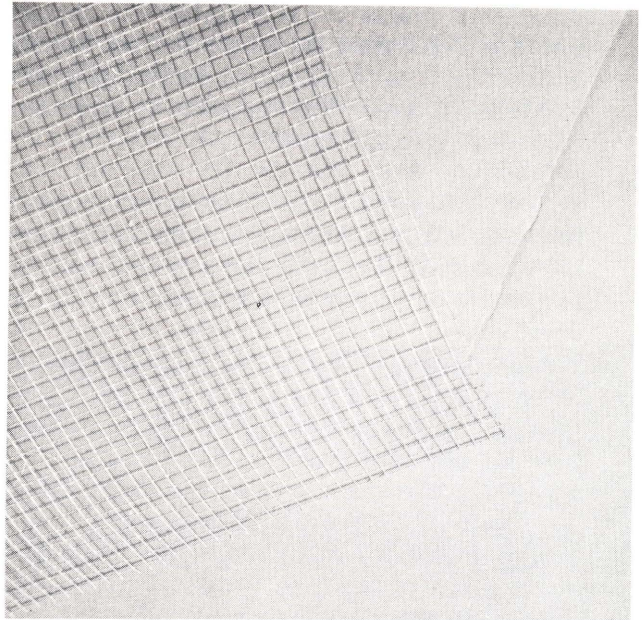


PHOTO 7
Use $\frac{1}{2}$ " x $\frac{1}{2}$ " wire (hardware cloth) to protect rabbits from dogs.

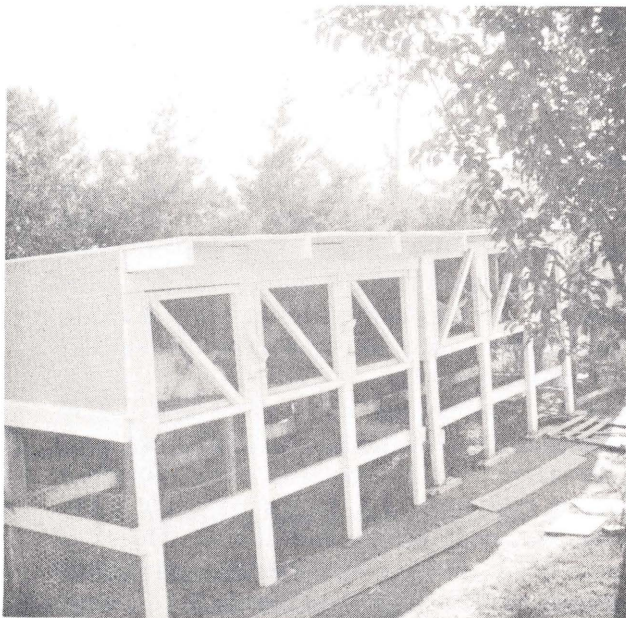


PHOTO 8
Three-hole hutch built from 8' material. Each cage being 29" x 31". Use turn button and spring loaded latches to fasten doors closed.

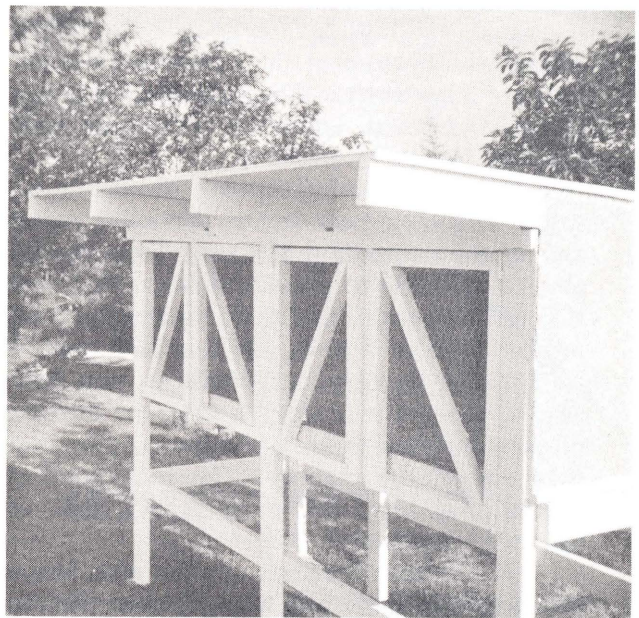


PHOTO 9
Four-hole hutch built from 8' material. Each cage being 23 $\frac{1}{4}$ " x 29".

your 4-H project. Remember the entire outdoor cage must be protected by an all-weather roof with adequate overhanging eave (14 to 16 inches). Rabbits must be protected from dust, rain and snow.

6. Cages 24 x 30" are recommended for your male rabbits (herd bucks). Two individuals of the same sex, either male or female, may be reared per cage hole during development (up to 6 months of age). A suitable outdoor facility may be constructed as shown in photo 9.

7. In the construction of semi-enclosed outdoor hutches similar to those in photos 8 and 9, use construction grade material 2" x 4", 2" x 2", 1" x 6", and 1/2" exterior plywood. Position the back and side panels of the hutch on the inside of the 2" x 4" cage floor bottom (photo 6) in order that droppings and urine cannot accumulate in the corners.

A full sheet of plywood 4' x 8' may be used for the roof and the back of the hutch should be one half of a sheet of plywood having dimensions of 2' x 8'. The cage floor should be 30" from the ground for convenience. White rolled roofing material (90 pound weight) or comparable shingles may be used on the roof deck, the sides and back may be painted or covered with suitable all-weather material.

During the cold winter periods, 1/8" tempered masonite panels may be attached around the bottom of the hutch to close the area reducing drafts. The cold will not stress the rabbits health condition if they are kept dry and free from drafts.

8. Your rabbit hutches should be located with their back to the prevailing winds and in the protection of trees. Trees should also be available to provide shade as hot weather can be a major problem in managing your project herd of rabbits. If the back yard is well fenced to keep out predators, you need also to place a wire skirt around the bottom of your hutches to keep children at play and pets out of the manure. One-inch poultry netting may serve this purpose very well, as shown in photo 8.

9. Some breeders prefer the single hutch, others build hutches with two or three tiers with compartments one above the other. The number of tiers should be determined by height of the caretaker. Dropping boards should be used under each tier.

FEEDERS

1. Some 4-H members may want to build their own feeders; however, wooden feed hoppers are easily chewed on by rabbits and are not recommended. All metal feeders are best either made from a can or purchased. Commercially available gravity flow feed hoppers with small openings in the bottom are best.

2. Homemade feeders from cans or commercially available feeders should have screened bottoms or have many 1/8" holes in the bottom to allow fines to sift out. Accumulations of feed dust in the feeder may cause respiratory irritations resulting in unhealthy rabbits with sinus ailments.

3. Crocks should not be used since a problem with dust from feed fines is inevitable. Daily care required to avoid such a problem wastes much feed and is time consuming for the caretaker.

WATERERS

1. Automatic-type watering systems are best and must be protected against freezing by inside water line heat tape for winter conditions.

2. Aluminum pans are probably best for year-round use with a very small rabbit herd, typical of many 4-H projects.

3. Crocks are only suitable during non-freezing weather.

NEST BOXES

There are many types of nest boxes in use by rabbit raisers and among them are modifications of apple boxes and nail kegs. The present trend is away from these modified nest boxes to the commercially available nest boxes or to types that are built at home by the breeder. A satisfactory design will take into consideration—size and shape, warmth, ventilation and sanitation.

1. Depending upon the breed you're raising, the size of the nest box (kindling box) may vary. As a rule-of-thumb, provide a nesting box about 10" high x 10" wide x 14" long for small breeds like the Dutch. For larger breeds like the New Zealand, provide an area about 14" high x 12" wide x 18" long. Concerning shape, keep in mind — it is desirable to provide a ramp as a part of the kindling box as it will permit young to return more easily to the nest, thus reducing mortality (death losses)

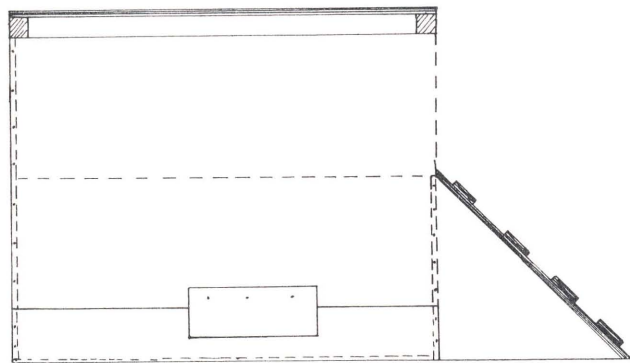
during freezing weather.

2. Supplemental heat is not generally provided to the nest box. Construct boxes for warmth from ½" plywood including a top for outdoor hutch rearing. When raising rabbits inside buildings generally tops are not provided. Photo 10 is a good example.

3. Ventilation holes or a slot near the top of nest boxes will provide free air movement without a draft on the young.



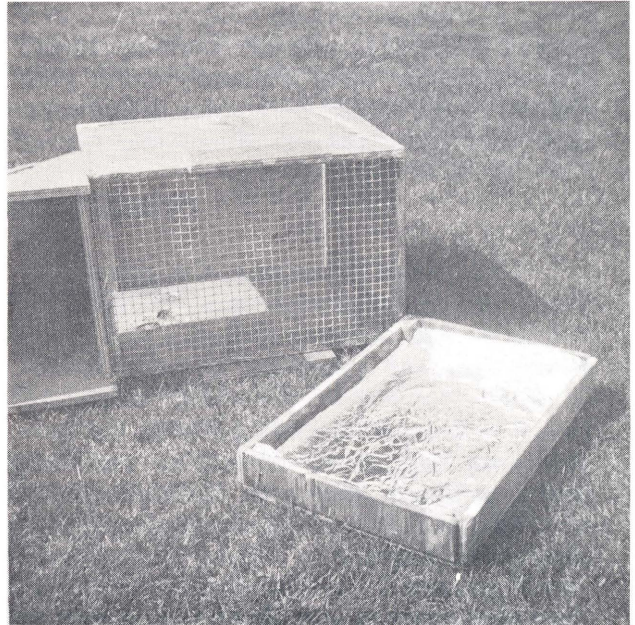
Drawer-type kindling box located below cage floor PHOTO 10 without top commonly used for inside rearing of rabbits.



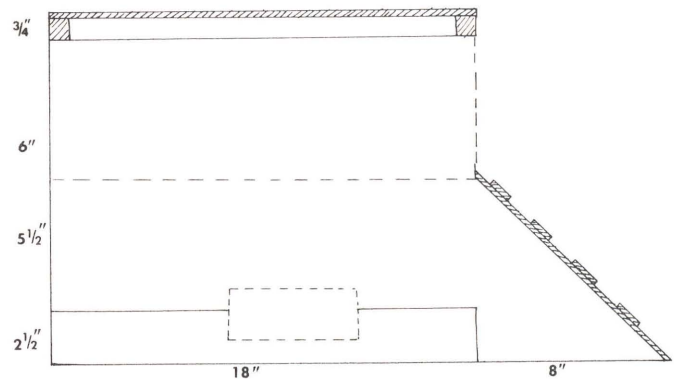
Side View Diagram of Kindling (Nest) Box

4. Sanitation of the nest box is the key to success in raising a high percentage of young that are kindled.

Presented in photo 11 is a nest box that considers the elements of size and shape and provides for warmth and ventilation. Notice the wire floored bottom, an aid in sanitation which keeps the nest dry. Preparation of the nest box for kindling is discussed in the management section of this manual.



Kindling box with ramp, open slot between top and side, ½" x ½" wire nest floor and 2½" high foil-lined bottom for nest box. PHOTO 11



In extremely cold weather below 10°F., remove ¾" risers and close top.

OTHER EQUIPMENT

1. You will need a tattoo kit in order to give individual rabbits a permanent ear marking. Use a tattoo set with ¼" number and letter series.

2. Sitting or resting boards of 1" x 12"

x 16" may be used if you're having a sore hock pad problem. Clean boards daily if they are being used. It is recommended that increased attention be given to this condition when selecting breeding stock.

3. Use brushes with stiff bristles for cleaning wire and washing facilities and equipment with disinfectants.

4. Use flame torch for burning loose hair and sanitizing equipment, especially nest boxes.

5. Gunnysacks may be hung over outdoor cage front when blowing snow is likely to enter the cage. Gunnysacks should be readily available to dip in cold water and lay in cages when rabbits are in heat stressed conditions. The dangerous high temperature is over 85°F. but not exact and the thermometer is a poor guide. Be sure to visually check your rabbits to determine if they are in danger from heat stress (prostration). Remember factors

like relative humidity, air movement, number of rabbits per cage, location and kind of facilities will influence the rabbits "true" environmental condition.

6. For transportation of rabbits, it's advisable to use good crates rather than temporary facilities. An inexpensive, excellent crate can be made from fruit or vegetable boxes available at most grocery retail outlets. To the clean, disinfected box add clean straw. Provide males and/or large does their own shipping crate when transporting rabbits to a show. In most boxes you can place a pen of fryers or two developing rabbits of the same sex. Caution—Avoid overheating of rabbits during transit.

PRINCIPLES OF RABBIT FEEDING

You cannot be successful in raising rabbits if you do not pay attention to their diets. Use only good commercial feed suited to the needs, age, and condition of your rabbits. Caution: Don't overfeed or underfeed. This means at least when feeding rabbits for show you must weigh your rabbits frequently and feed accordingly. However, don't be wasteful with feed as it is the biggest expense in your rabbit raising project.

Regularity in feeding and watering is the key to healthy rabbits and is more important than the number of times rabbits are fed daily. You may want to care for and feed your rabbits in the morning, checking in the evening to see if they consumed all of the feed. You can feed in the evening, however, and your rabbit will eat during the night. In the summer, rabbits will eat better in the evening than during the day.

PELLETED FEED

Commercially available pelleted rabbit feeds are made of a blend of protein meals, dehydrated alfalfa, minerals, and vitamins. The pellets have been formulated to meet the nutritional requirements of rabbits. Most manufacturers suggest feeding the following amounts of pellets:

1. Growing animals
(4-6 oz. per day)
2. Dry does and nonworking bucks
(3-4 oz. per day)
3. Breeding bucks
(4-6 oz. per day)

4. Doe and litter

(Varies with age - full feed)

5. Pregnant doe

- a. 1-14 days (4-6 oz. per day)
- b. 15-31 days (Watch and feed what doe will eat)

For most commercial pellets one level cup will weigh about 6 ounces.

SUPPLEMENTS

Commercially available diets are well balanced containing a variety of feeds and do not need supplementation; however, it is advisable to have salt blocks (bunny spoons) available for the rabbits to chew on at their choice.

Since rabbits have a tendency to gnaw on anything they can reach, alfalfa can be supplied on an occasional basis to help keep the rabbits occupied. An alfalfa hay cube, 1½ x 3", is ideal if available in your area.

WATER

Clean fresh water is just as important as any other part of the rabbit ration. Always keep it available, particularly during hot weather. Rabbits require large quantities of water. A doe and her young will drink about one gallon of water each 24 hours. During freezing weather, see that your rabbits have an opportunity to drink at least twice daily. Empty the pans or crocks after the rabbits have finished drinking to prevent the water from freezing.

HAND REARING YOUNG

In practical, economical terms hand rearing is not recommended. However, for small rabbit raising projects there are occasionally times when a doe may die or not be able to feed her young after kindling. When this occurs, what do you do?

1. It is recommended that you transfer the young to another suitable litter, but in order to do it you must be kindling several does at about the same time. Transferring young is discussed in the management section of this manual.

2. Hand rearing may be attempted, but recognize that you will not be entirely successful. Much more information is needed to achieve optimum results, but with current knowledge consider the following as the

best procedure.

Suggested Dietary Mixture:

- 3/4 cup water
- 1/4 cup esbilac
- 2 tablespoons canned evaporated milk
- 1 teaspoon Karo syrup

Heat just to boiling point, pour into 1½ - 2 oz. pet-type nurser bottles. Feed newborn animals just the amount that they take easily 3 times per day. To avoid milk pneumonia, do not force feed; if nostrils become filled with milk, a pneumonia-like condition may develop. At about two weeks of age go to 2 feedings per day and don't overfeed as indicated by extremely full and extended stomachs.

BREEDING AND MANAGEMENT PRACTICES

BREEDING

The age at which rabbits may be bred varies with the time required for them to attain full size (maturity). In small breeds this is usually four to five months; in medium breeds it may be five to six months; and for heavy breeds, eight to 10 months.

There are many practical breeding schedules available to the rabbit raisers. The period of gestation is 30 to 32 days depending on breed and individual rabbit differences. Does may be bred again at many different intervals and the rebreeding schedule must be considered in view of the overall project goals. Most 4-H members will initially find rebreeding schedules most successful during the period of six to eight weeks after kindling.

The choice of an accelerated breeding program such as to rebreed does at 3 or 17 days after kindling is not recommended for beginners. When the accelerated breeding programs are selected by the rabbit raiser, a creep feeding program must be followed to finish out the rabbits for market.

Each mature doe should be bred four or five times per year. A good way to check a doe for signs of being ready to breed is to run your hand over her back from tail to head. If the doe is ready to breed, she will usually stretch out and raise her tail slightly.

PLACE DOE IN BUCK'S CAGE

Each breeding doe must have a hutch for herself and her young. The buck also must be kept by himself. One buck per 10 breeding does is adequate. At mating time the doe should be taken to the buck's cage. Never put the buck in the doe's cage. When the doe is brought to the buck, she may be held and quieted to prevent undue excitement. After copulation takes place, the buck will usually fall over backward or on his side. The doe should be removed immediately to her own cage. You may increase litter size in some cases by repeating the servicing four to five hours after the first service. If the doe does not voluntarily accept service within four or five minutes, she should be taken away and returned again the next day.

The number of young in a litter may vary greatly, and it is common to have litters of 10 or 12 and sometimes more. Such litters are too large for one doe to raise. Leave about eight of the best young with the doe and transfer additional offspring to foster mothers. Does differ in the quantity of milk they give; therefore, some are capable for raising larger litters than others.

When producing rabbits for markets other than pedigreed breeding and show stock, it is advisable to breed several does on two

successive days in order to have many litters kindled within a few hours. Six working does bred at approximately the same time are easily managed and it's possible to adjust litter sizes among them during the first three days after kindling. Good does should successfully care for eight or nine bunnies.

DETERMINING PREGNANCY

It is advisable to learn early in your 4-H project how to palpate or determine if does are pregnant. Palpating should be done at 14-16 days after breeding, as during this period the inexperienced rabbit owner will be most accurate with the diagnosis. With experience the rabbit raiser's confidence and accuracy for diagnosing pregnancy will improve and then the technique may be practiced as early as seven to eight days after breeding service. Photo 12, courtesy of the U.S. Department of Agriculture, shows how to restrain a doe for palpating. If the doe is pregnant you should feel with the thumb and fingers a series of nodules or lumps in the lower abdomen. Nonpregnant does should be rebred 17 days after the previous breeding attempt.

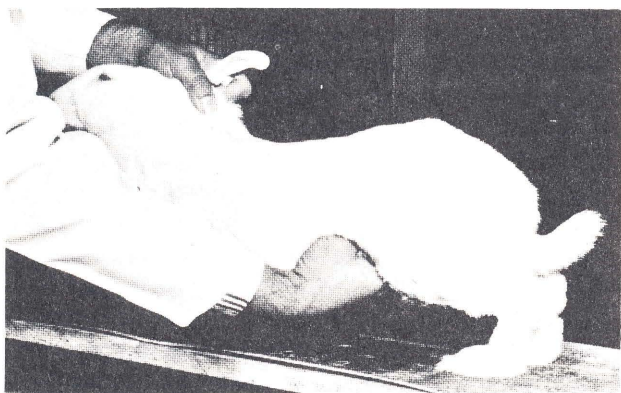


PHOTO 12

How to restrain a doe for palpating.

KINDLING

Keep an accurate record of the date on which each doe is bred. On the 27th or 28th day after mating the cage should be cleaned and the nest box placed in the cage. Don't underestimate the importance of disinfecting nest box facilities. Photo 13 provides a reminder that you must be prepared with a stiff bristled brush, warm water and a disinfectant, and be sure to follow the manufacturer's recommendations.

To completely ready the nest box you'll need to consider the message in Photo 14 which is disinfect and clean the entire box thoroughly and don't forget to scrub down boxes between litters. Photo 15 says you'll need a two-pound can full of wood shavings which is to be placed in the bottom of nest boxes of the type shown in Photo 11. Next as indicated in Photo 16, you'll need plenty of good clean straw and the doe will make her own nest. If the doe eats a lot of straw, don't be alarmed, just add more straw. If all of your breeding herd does are eating a lot of straw, recheck your feeding program to see if something is missing. Photo 17 shows a completed job ready for use and Photo 18 "Bunnies doing fine".

Remember a nest box filled with straw should be placed in the cage 27-28 days after mating. The doe should be made as comfortable in her cage as possible and should not be disturbed just before kindling and not until she has quieted down after kindling. The day after the young are born, you should check the nest box and determine the number of young in the litter and remove any which may have died. During very cold weather, provide a ramp from the cage floor to the nest box opening. Then if a young bunny falls out it has a chance to climb back in. The ramp should have a solid top with step-like ridges so the young rabbit will have little difficulty in climbing back into the nest box.

CARE OF YOUNG

The doe will generally line the nest with fur from her own body. If she fails to pull enough fur to give the litter protection, especially during cold weather, you can pluck some fur from the hips and side of the mother and add to the nest. During the summer months remove extra fur and store in a clean bag or box to be used during the winter.

Soon after the young come out of the nest box about the 21st to 24th day of age, the box should be removed. It is best to leave the young with the doe until they are seven weeks of age. Males and females that are not marketed at around the eighth week should be separated into pairs of the same sex or individually caged for further growth and development.



PHOTO 13

Follow directions for use of disinfectant for fur bearing animals.

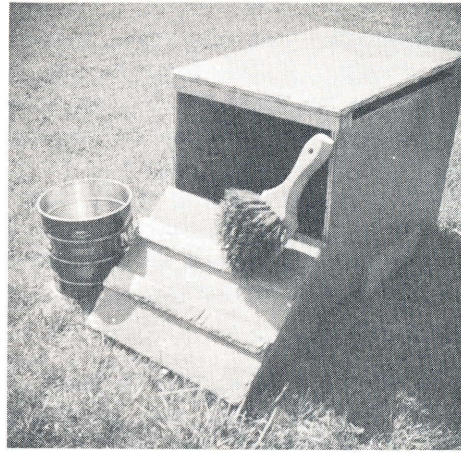


PHOTO 14

Use warm water disinfectant and scrub brush; clean the entire box.



PHOTO 15

Two pounds of wood shavings below the nest bottom wire will absorb urine and keep down ammonia odors.



PHOTO 16

Use plenty of clean straw in the nest box and add new straw if needed.



PHOTO 17

A completed nest box ready to go into the does cage on the 27 to 28 day after breeding.

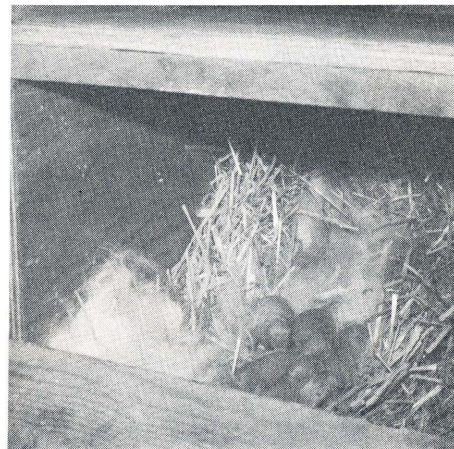


PHOTO 18

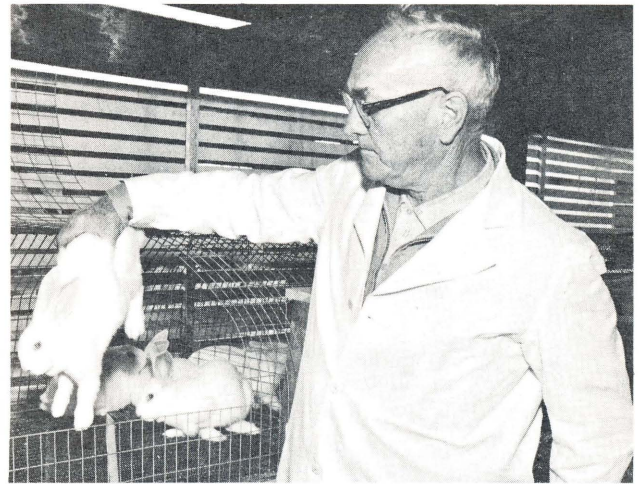
One day old litter of bunnies doing fine.

DOES MAY DESTROY THEIR YOUNG

Occasionally you may have a doe that eats her young. If this happens give her a strip of raw bacon, then check to see whether you have given her a balanced diet during the pregnancy period. There also may be something such as a prowling dog or cat disturbing her. Give the doe that destroys her litter another chance. However, if she continues the practice, she should be marketed.

HANDLING RABBITS

One of the first lessons to learn about rabbits is how to carry and handle them properly. An acceptable way to pick up small rabbits is illustrated in Photo 19 (courtesy of U.S. Dept. of Agriculture.) Here you'll notice the caretaker has lifted the rabbit by holding firmly, but not pinching in the rib section, just in front of the hindquarter. For medium-sized and larger rabbits, (Photo 20, courtesy of U.S. Dept. of Agriculture) lift by grasping the fold of skin over the rabbit's shoulders with one hand lifting the weight of the rabbit by the other hand under the rump. Keep the feet turned away from you to avoid scratches in case the rabbit struggles. The rabbit may be tucked beneath your arm to help restrain him as you walk. Do not use the ears or legs to move or carry rabbits.



Proper way to carry small rabbits.

PHOTO 19



Proper way to carry medium-sized and large rabbits.

PHOTO 20

TATTOOING RABBITS

It is absolutely essential that the 4-H member raising rabbits tattoo his rabbits. Tattooing is the acceptable method for keeping accurate breeding information. Keep your herd book up to date and record all identification marks of the offspring, against the actual sire and dam. Be accurate and truthful with all pedigree records.

The permanent identification tattoo mark is placed in the left ear of the young rabbit by the breeder. This should be done while the bunnies are still with their mother. The rabbit's right ear is reserved for use by an official ARBA registrar who will place a permanent tattoo number in the ear if the individual rabbit merits registry. Merit is determined in accordance with the Standard of Perfection for rabbits, published by the American Rabbit Breeders Association, Inc.

When tattooing rabbits, they may be held on a training table, but the rabbit will struggle to get away. It is best to restrain movement of rabbits by utilizing a box especially designed for the purpose of holding rabbits. Notice in the illustration below (courtesy of the U.S. Department of Agriculture) that the compartment for the rabbit is adjustable and may accommodate rabbits of differing sizes.

DISEASE CONTROL

Sanitation is the key to disease control. Outbreaks of disease are often the fault of the rabbit raiser because he has not practiced cleanliness and not followed a sanitation pro-

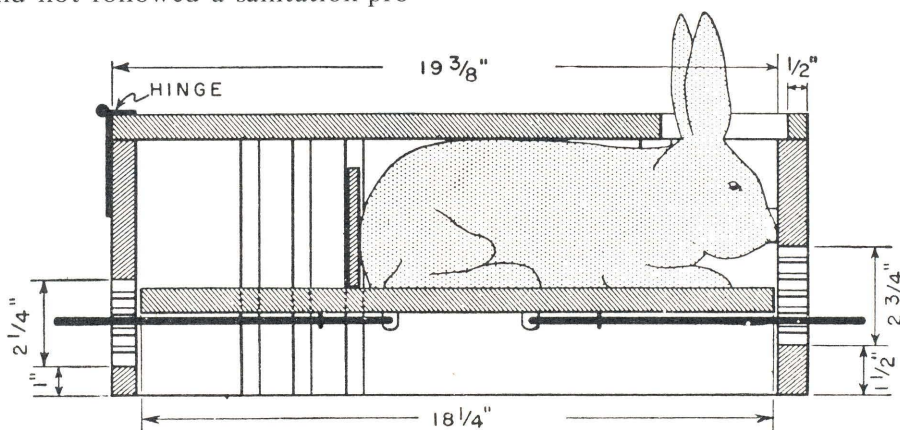
gram. Remember this rule: "It is better to prevent than cure".

1. Daily care of the rabbitry must include the removal of any dead animals; take them to a diagnostic laboratory, burn or bury immediately. Remove soiled bedding in nest boxes; clean sitting boards if they are used and remove any manure and/or hair that may have accumulated in the hutch.

2. Check feeders daily and remove "fines", the feed dust that may be present due to breakage of soft pelleted rations or rough handling of feed, a particular problem of sacked feeds. Watering and feeding equipment should be washed frequently with warm soapy water and follow the directions of the manufacturer for use of disinfectant solutions. Rinse equipment in clean water, drain and leave in sun to dry. Avoid placing rabbits in cold drafts, direct sunlight or uncleaned temporary holding facilities.

3. Isolate any animals suspected of having a disease from the herd and isolate or quarantine newly purchased rabbits for at least two weeks or until determined health. These practices reduce the risk of spreading infectious organisms among other rabbits you own. Dangerous disease problems are very uncommon when good management is practiced.

4. It is usually safer and more economical to destroy a few sick animals than to administer individual treatments while risking the health condition of the rest of your stock in the rabbitry.



Vertical section of a box for restraining a rabbit for tattooing. The spring-type holders tacked to the lower side of a movable floor compress the rabbit toward the top of the box. A movable cross partition holds the rabbit toward the front. Blocks of wood on each side hold the rabbit's head in the center of the hole at the top.

5. For a definition of common ailments and diseases of rabbits, read all items in the glossary marked with an asterisk (*). For information on the treatment of diseases, consult with rabbit breeders and follow the recommendations printed in currently dated commercial rabbit raising booklets.

THE ANGORA WOOL RABBITS

The Angora (English and French) rabbit is raised for wool production. Angora rabbit is used commercially for making clothing, blankets and other items.

If you raise Angoras, you should first learn where the wool can be marketed profitably. There may not be a suitable local market for your wool; therefore, shipping wool will be necessary and the procedure involved in this practice should be understood before you start to raise Angora rabbits for sale of wool.

Angora rabbits will produce from 12 to 16 ounces of wool each year. The wool is sheared or plucked when it is $2\frac{1}{4}$ to 3 inches long. The first shearing can be made when the rabbit is about eight weeks old and then can be sheared at intervals of about 10 to 12 weeks.

Angora rabbits should be raised on wire-bottom cages in order to keep the wool clean. Other feeding and management practices are about the same as with other breeds of rabbits.

If you raise Angora rabbits and have trouble with shearing, plucking or marketing, contact an experienced rabbit raiser.

HOME PROCESSING OF RABBITS

SLAUGHTERING AND SKINNING

To slaughter a rabbit, the neck is usually dislocated by holding the animal by its hind legs with the left hand and placing the thumb of the right hand on the neck just back of the ears with the four fingers extended under the chin. Push down on the neck with the right hand, stretching the animal, pressing down with the thumb, and then raise the animal's head with a quick movement and dislocate the neck, photo 21 (courtesy of U.S. Department of Agriculture). This renders the animal unconscious and prevents it from struggling.

The carcass is then suspended on a hook inserted between the tendon and the bond of the right hind leg just above the hock, photo 22

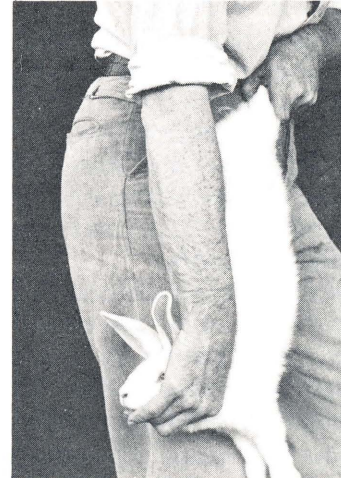


PHOTO 21

This picture shows the technique used in dislocating a rabbit's neck.

(courtesy of U.S. Department of Agriculture). Remove the head immediately to permit thorough bleeding. This will give the meat a good color. Remove the tail and the free rear leg at the hock joint. Then cut off the front feet.



PHOTO 22

Steps in skinning and removing internal organs from rabbits.

The skin is then cut just below the hock on the suspended leg and continued to the hock on the left leg, keeping the edges of the skin carefully separated from the carcass. Make a special effort to leave all fat on the carcass as the skin is pulled down over the animal. This not only makes a more attractive meat product but also facilitates drying the skin and prevents "fat burns" on the pelt.

After the carcass has been skinned, a slit is made along the median line of the belly. Remove the entrails but leave the liver in place. Then the right hind foot is removed by severing (cutting) at the hock. Particular care

should be taken in dressing rabbits so hairs will not get on the carcass. They are difficult to remove and give it an unattractive appearance. Rinsing the carcass in cold water facilitates the removal of hair, blood, and also cleans the carcass. Do not leave the carcass in the water more than 15 minutes. Prolonged soaking causes the meat to absorb water. This is considered an adulteration of the product. Chill the carcass in a refrigerated cooler, so the internal temperature of the carcass will be no more than 40°F or less than 36°F within 24 hours. Use a knife to cut up a fryer rabbit. Common cuts and packaging are shown in photo 23 (courtesy of U. S. Department of Agriculture).



PHOTO 23

One method of cutting up a fryer rabbit suitable for marketing fryers.

Rabbits for sale come under the state and/or federal regulations governing the processing of food. In most states there is a specific law which requires that all rabbit dressing plants meet minimum standards regarding sanitation and equipment. Processing plants must be approved and for this information contact your Extension Agent who can help you get specifications and regulations from the appropriate agency's office.

CARE OF SKINS

Curing - When a skin is left uncut, it is known as a cased skin. Even small cuts lessen the value of the skin. While the skin is still warm, it should be placed on a stretcher, secured and hung up for drying. The skin should be placed flesh side out with the forepart over the narrow end of wire or board formers or shapers. All wrinkles should be removed.

Satisfactory skin shapers can be made from galvanized wire (see illustration below).



A skin shaper or stretcher can be made from a five-foot piece of No. 9 galvanized wire.

This equipment is called a "stretcher" but the term may give an erroneous impression because skins should not be stretched excessively. Stretching tends to weaken certain parts and also to open the fur. Skins should be arranged on the shaper as shown in photo 24 (courtesy of U. S. Department of Agriculture) keeping the legs on one side, thus avoiding any possible injury to the back fur. The back fur is most valuable. On the day after skinning, examine the pelts to see that the edges are drying flat and that the skin on the front legs is straight. Rabbit skins should not be dried in the sun or by artificial heat. They should be hung so they have the benefit of free circulating air.

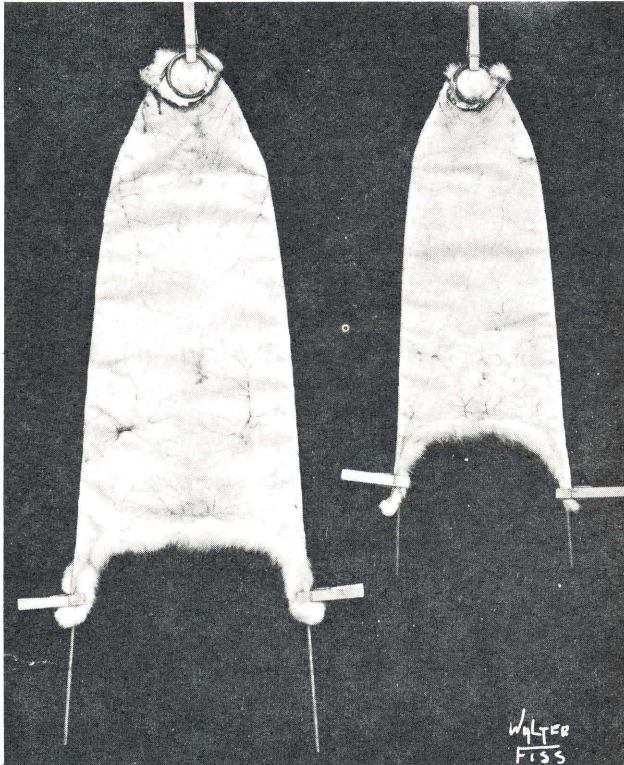


PHOTO 24

The proper way to place rabbit pelt on shaper or stretcher

All skins must be thoroughly dry before they are packed. If they are not shipped for some time after the drying process, they should be hung in loose bundles of 50 in a cool, dry place. Keep them away from rats and mice. If they are kept any length of time in a warm climate or during the summer, they should be sprinkled with naphtha flakes. Salt should never be used in curing rabbit skins.

NUTRITIONAL VALUE OF RABBIT

Do you want to add another high quality protein food to your diet and that of your family? Do you like white meat? Tasty, mild-flavored rabbit will do the trick. Top quality, fully fleshed, young rabbits (7-12 weeks of age) rabbits weighing about 2½ to 4½ pounds live depending upon breed will yield 1½ to 3½ pounds of ready-to-cook "fryer" rabbit meat.

Nutritionally rabbit is high in protein about 20.8 percent with about 796 calories per pound and it contains many other essential nutrients, particularly B vitamins, minerals, phosphorus and iron. Rabbit meat may be served in many ways and it is an easily digesti-

ble, flavorful, fine-grained, tender, and juicy meat. To prepare an old favorite, consider the following recipe.

Golden Brown Fried Rabbit

2 to 3 lbs. young Rabbit (fryer)
 ½ cub flour ¼ teaspoon pepper
 1½ teaspoon salt Butter or fat

Moisten rabbit meat, drain, but do not dry. Shake pieces in paper bag in mixture of flour and seasoning. Place pieces in ½ inch of hot butter or fat in heavy skillet, turning to brown evenly on all sides. Reduce heat, cover and cook slowly 40 to 50 minutes or until tender. For crisp crust on rabbit meat, uncover for the last 10 to 15 minutes.

SELECTING RABBITS FOR SHOW

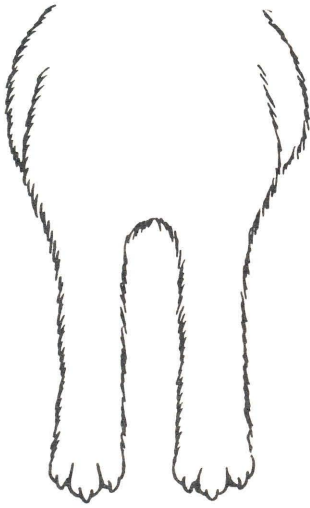
You must become familiar with the standard requirements of the breed before you can do a good job of selecting animals for exhibition.

Here are a few points to consider: Learn the major eliminations and disqualifications. Then learn the minor defects to be taken into consideration in judging. Select only individuals near maximum weight for their age (See tables 2 and 3; for information on breeds, refer to the latest issue of the Standard of Perfection published by the A.R.B.A.) and do not exhibit an animal that is not in the best health and condition.

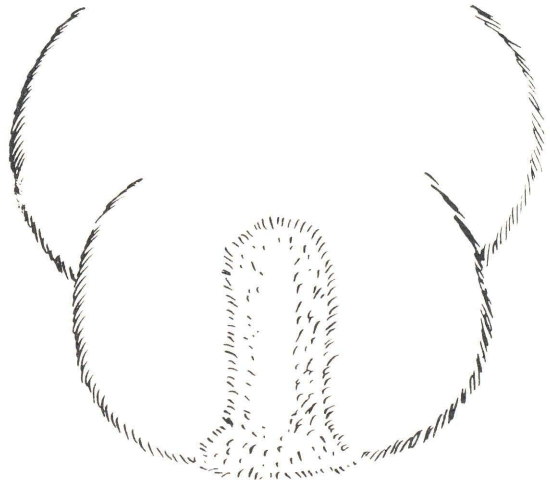
Following are some of the common disqualifications and eliminations which will keep an animal from winning in the show room:

1. Sickness or disease.
2. Lack of distinctive type.
3. Lopped ears (in certain breeds).
4. Blindness in one or both eyes.
5. Crooked legs or feet, bowed legs or knocked knees.
6. Crooked back, crooked neck or other body deformities.
7. Broken or side-carried tail.
8. A tail bobbed or otherwise mutilated.
9. Color defects for each breed
10. Weight defects for each breed.

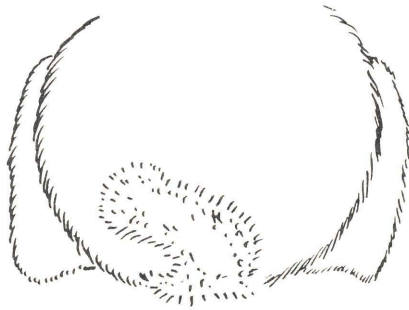
DOES YOUR RABBIT HAVE...



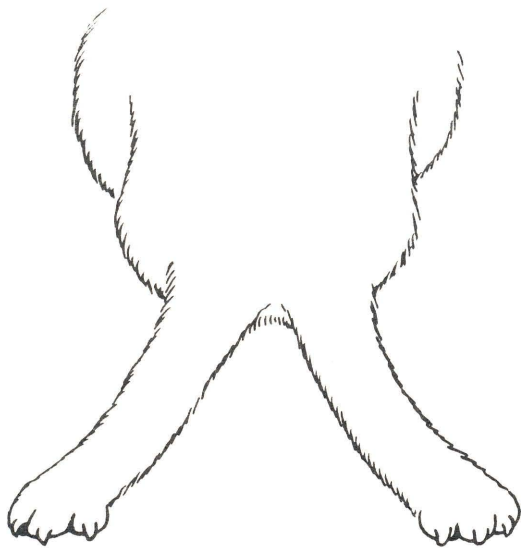
GOOD FRONT LEGS?



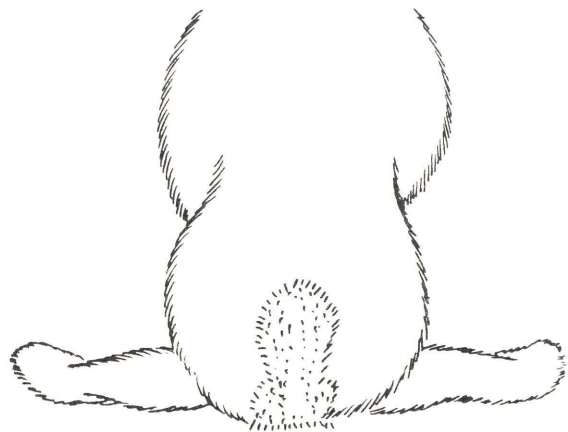
GOOD TAIL CARRIAGE?



A CROOKED TAIL (BAD)?



SPRADDLED FRONT LEGS (BAD)?



SPRADDLED HIND LEGS (BAD)?

In order to become familiar with the standard requirements for different breeds of rabbits and to learn the important points to consider in picking your best rabbits for show, arrange for judging a class of four animals of the same breed, sex and age. Each member

should place the rabbits in 1st, 2nd, 3rd, and 4th order, depending on the qualities of each animal. Each club member should give reasons for his placing of the animals. Have your leader, an experienced exhibitor, any A.R.B.A. member or a licensed rabbit judge make the official placing.

SHOW ROOM CLASSES

One of the most rewarding learning experiences in your 4-H rabbit project is associated with showing. This is your opportunity to learn from experienced professional rabbit breeders just how well your selection has been for good stock. Your progress in feeding, managing and fitting rabbits for show will also be evaluated by the judge as he makes his comments about the merit of each rabbit in the show. Competition is exciting and exhibitors look forward to showing.

Show room classes as established by the A.R.B.A. generally are followed for junior shows. The classes are set up for sexes separately within each breed according to age and weight categories. Keep in mind – A young animal that may be too heavy for showing in its own age class may and should be shown in the next higher class. Information in Table 2 represents a partial listing of show room classes for some of the more popular commercial-type rabbits shown in this area. A partial listing of the more popular fancy type rabbit show room classes is presented in Table 3. Meat show room classes and Fur show room classes are listed in Table 4 and 5, respectively. For more information on showing rabbits, contact your local club leader or extension agent. Remember to read show classes and premium list to make sure your rabbits are properly entered and qualified.

TABLE 2
COMMERCIAL SHOW ROOM CLASSES
(Partial list as recognized by the American Rabbit Breeders' Association)

| <u>Breed</u> | <u>Class</u> | <u>Sex</u> | <u>Age (mo.)</u> | <u>Weight (lbs.)</u> | |
|---------------|-----------------------------|------------|------------------|----------------------|---------|
| California | Senior | Buck | Over 8 | 8-10 | |
| | | Doe | Over 8 | 8½-10½ | |
| | Intermediate | Buck | 6-8 | Under 9 | |
| | | Doe | 6-8 | Under 9½ | |
| | Junior | Buck | Under 6 | Under 8 | |
| | | Doe | Under 6 | Under 8 | |
| | Pre-Junior | Buck | Under 3 | Under 5½ | |
| | | Doe | Under 3 | Under 5½ | |
| | Checkered Giant | Senior | Buck | Over 8 | Over 11 |
| | | | Doe | Over 8 | Over 12 |
| Intermediate | | Buck | 6-8 | Over 9 | |
| | | Doe | 6-8 | Over 9 | |
| Junior | | Buck | Under 6 | Over 6 | |
| | | Doe | Under 6 | Over 6 | |
| Pre-Junior | | Buck | Under 3 | Under 7 | |
| | | Doe | Under 3 | Under 7 | |
| Flemish Giant | | Senior | Buck | Over 8 | Over 12 |
| | | | Doe | Over 8 | Over 13 |
| | Intermediate | Buck | 6-8 | Under 12 | |
| | | Doe | 6-8 | Under 13 | |
| | Junior | Buck | Under 6 | Under 11 | |
| | | Doe | Under 6 | Under 12 | |
| | Pre-Junior | Buck | Under 3 | Under 8 | |
| | | Doe | Under 3 | Under 8 | |
| | New Zealand (all colors) | Senior | Buck | Over 8 | 9-11 |
| | | | Doe | Over 8 | 10-12 |
| Intermediate | | Buck | 6-8 | Under 10 | |
| | | Doe | 6-8 | Under 11 | |
| Junior | | Buck | Under 6 | Under 9 | |
| | | Doe | Under 6 | Under 9 | |
| Pre-Junior | | Buck | Under 3 | Under 6 | |
| | | Doe | Under 3 | Under 6 | |
| Satin | | Senior | Buck | Over 8 | 8½-10½ |
| | | | Doe | Over 8 | 9-11 |
| | Intermediate | Buck | 6-8 | Under 9 | |
| | | Doe | 6-8 | Under 9½ | |
| | Junior | Buck | Under 6 | Under 8½ | |
| | | Doe | Under 6 | Under 9 | |
| | Pre-Junior | Buck | Under 3 | Under 6 | |
| | | Doe | Under 3 | Under 6 | |

TABLE 3

FANCY SHOW ROOM CLASSES

(Partial list as recognized by the American Rabbit Breeders' Association)

| <u>Breed</u> | <u>Class</u> | <u>Sex</u> | <u>Age (mo.)</u> | <u>Weight (lbs.)</u> |
|--------------|--------------|------------|------------------|----------------------|
| Dutch | Senior | Buck | Over 6 | 3½-5½ |
| | | Doe | Over 6 | 3½-5½ |
| | Junior | Buck | Under 6 | Under 3½ |
| | | Doe | Under 6 | Under 3½ |
| English Spot | Senior | Buck | Over 6 | 5-8 |
| | | Doe | Over 6 | 5-8 |
| | Junior | Buck | Under 6 | Under 5 |
| | | Doe | Under 6 | Under 5 |
| Polish | Senior | Buck | Over 6 | 2½-3½ |
| | | Doe | Over 6 | 2½-3½ |
| | Junior | Buck | Under 6 | Under 2½ |
| | | Doe | Under 6 | Under 2½ |

TABLE 4

MEAT SHOW ROOM CLASSES

(As recognized by the American Rabbit Breeders' Association)

| <u>Class</u> | <u>Age (days)</u> | <u>Live Wt. (lbs.)</u> |
|------------------|-------------------|------------------------|
| Single (1) Fryer | 69 | Under 5 |
| Pen (3) Fryers | 69 | Under 5 |

TABLE 5

FUR SHOW ROOM CLASSES

(As recognized by the American Rabbit Breeders' Association)

| <u>Class</u> | <u>White Only</u> | <u>All Color But White</u> | <u>All Color For Breed</u> | <u>Wool Only</u> |
|--------------|-------------------|----------------------------|----------------------------|------------------|
| Normal Fur | Yes | No | Yes | No |
| Rex Fur | Yes | Yes | No | No |
| Satin Fur | Yes | Yes | No | No |
| Wool | No | No | No | Yes |

RECORDS

While the subject of records appears in the back portions of this manual, records are by no means of least importance. Aside from daily management techniques, records are the most important part of your 4-H project. Records represent the "backbone" of your rabbitry; they keep things in order; they tell you how your rabbits are doing; they can make your business profitable. Keep your 4-H rabbit records up to date and accurate. Good records include:

1. Beginning inventory
2. Total operating expenses
3. Total marketing receipts
4. Closing inventory and a profit or loss summary statement at close of project or years end.

Keep a herd book —

1. Complete pedigree of each individual.
2. Performance record on service of bucks.
3. Doe Performance Records including growth record of litters at
 - a. 3 Weeks of age - individually weigh all rabbits. The average is a good indication of lactating ability of the doe.
 - b. 6 weeks of age - individually weigh all rabbits. This helps you identify outstanding individuals.
 - c. 8 weeks of age - individually weigh all rabbits. Make first selections for herd replacements at this time.
For commercial meat-type rabbits, all individuals should be ready for fryer marketing.

Keep a show record —

1. Enter in your records the shows entered by date and place.
2. Record information on classes entered, number in competition and awards received.

The following pages have sample records for keeping pedigree and breeding information. Many commercial companies will provide, free of charge, similar record forms.

SAMPLE PEDIGREE CERTIFICATE

Name & Ear No. of Rabbit _____ Breed _____

Variety _____ Date of Birth _____

Sex _____ Mature Weight _____

Name of Breeder _____

Address _____

Date Sold _____ To _____

Address _____

| | | |
|------------|-------------|-------------|
| Sire _____ | (Sire _____ | (Sire _____ |
| | (_____ | (_____ |
| | (_____ | (Dam _____ |
| | (_____ | |
| | (_____ | |
| | (Dam _____ | (Sire _____ |
| | (_____ | (Dam _____ |

| | | |
|-----------|-------------|-------------|
| Dam _____ | (Sire _____ | (Sire _____ |
| | (_____ | (_____ |
| | (_____ | (Dam _____ |
| | (_____ | |
| | (_____ | |
| | (Dam _____ | (Sire _____ |
| | (_____ | (Dam _____ |

This pedigree is correct to the best of my knowledge.

Signature _____ Date _____

SAMPLE RECORDS - BREEDING

DOE PERFORMANCE RECORD

| Ear No. Doe | Ear No. Buck | Date Bred | Tested | | Date Kindled | Number of Young | | | | | Jrs. Saved | | Litter Average Weight | | | |
|----------------|-----------------|--------------|--------|-----|-----------------|-----------------|------|-------|--------|------|------------|------|-----------------------|--------|--------|--|
| | | | PG | NPG | | Born | Left | Added | Raised | Died | Bucks | Does | 3 wks. | 6 wks. | 8 wks. | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Summary | | | | | | | | | | | | | | | | |

BUCK PERFORMANCE RECORD

| Ear No. Buck | Ear No. Doe | Date Bred | Tested | | Litter Size | Jrs. Saved | | Litter Average Weight | | |
|-----------------|----------------|--------------|--------|-----|----------------|------------|------|-----------------------|--------|--------|
| | | | PG | NPG | | Bucks | Does | 3 wks. | 6 wks. | 8 wks. |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

SHOWS

| Date | Place | Class | No. in Class | Award | Am't | Total |
|------|-------|-------|--------------|-------|------|-------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

GLOSSARY

- Adult* – See senior.
- Agouti* – As applied to fur color in rabbits: A hair shaft possessing three or more bands of color with a definite break in color bands on entire body. Usually dark slate at base, with two or more alternating light and dark bands or rings interspersed with black guard hairs. Head, ears, and feet usually carrying ticking—belly color usually much lighter color, and not carrying ticking. For example, steel or gray Flemish, Chinchilla and Belgian Hares.
- Back* – In general; the entire top portion of the animal extending from neck to tail. The area covered by the backbone or vertebrae.
- Bare Spots* – A section of the animal entirely denuded of fur.
- Bell Ears* – Ears which have large tips with distinct fall or lop.
- Belly* – The lower part of body containing the intestines—the abdomen. (For purposes of defining color area—the underbody of an animal from the forelegs to the crotch area.)
- Blaze*— White on the head and nose running up between the eyes on rabbits with multi-colored fur.
- Boils or Abscess* – A hard swelling or isolated collection of pus or purulent matter occurring in the rabbit's skin, accompanied by localized fever and heat.
- Bowed Legs* – Applied to both fore and hind legs. Bent like a bow; curved outwardly in the middle.
- Breed* – A race or special class of domestic rabbits which reproduce distinctive characteristics of fur markings and texture; shape, size, and growth. A breed may be subdivided into varieties, as for example, the Black, Blue and Tortoise varieties of the Dutch breed.
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- Breeder* – One who breeds or rears a special variety or varieties of rabbits in conformity with accepted standards of perfection or for the purpose of improving their commercial value.
- Breeding Certificate* – A written certificate by the owner of a stud buck, showing its pedigree in full and the date of breeding to a particular doe; given for the purpose of making proof of the ancestry of the young.
- Broken Coat* – Guard hair broken or missing in spots exposing undercoat; areas where coat is affected by moult exposing undercoat.
- Broken Ear* – A distinct break in the Cartilage which prevents erect ear carriage.
- Broken Tail* – A tail that is or has been broken and is out of line – a disqualification.
- Buck* – An unaltered male rabbit.
- Buck Teeth* – See wolf teeth.
- Buff* – A rich golden orange with a creamy cast.
- Bull Dog* – As applied to head; a short, broad, bold head of pronounced masculine appearance.
- Butterfly* – A dark colored area on the nose such as found on the Checkered Giant and English Spot breeds.
- **Caked Teats or Caked Udder* – Inflamed and feverish condition of the teats arising from superabundant milk supply in a doe rabbit. Easily noted by the teats distended with hardened milk.
- Carriage* – The mode in which a rabbit bears itself; the style or station of the animal.
- Chest* – The front portion of the body between the forelegs and neck – the breast or thorax.
- Cheek* – The sides of the face beneath the eyes.

Choppy – As applied to type – having the back and loins cut off abruptly and falling vertically to the tail; not having a gracefully arched back and loins.

Cobby – Stout and stocky; short legged and short coupled.

**Coccidiosis* – Protozoa type organisms which infect the intestinal tract resulting in poor growth and may lead the way for secondary diseases.

**Cold* – A respiratorial infection in rabbits, characterized by sneezing; a thin watery nasal discharge, and slightly matted fur on the inside front feet.

Collar – A white band completely circling the body at the chest and forelegs.

Condition – The physical state of a rabbit in reference to health; cleanliness, texture, and moult of fur, and grooming.

**Conjunctivitis* – (Weepy Eye) Bacterial infection of eyelids causing a discharge.

Cow Hocks – Hocks that turn or bend inward causing the foot portion to turn outward.

Creamy – Light yellow; the color of cream.

Dead Hairs – Lacking life – produced by molting.

Density – The property or quality of a thick coat.

Dewlap – A pendulous fold or folds of loose skin hanging from the throat.

Disqualify – One or more permanent defects, deformities or blemishes which renders an animal unfit to win an award in competition or from taking part in an exhibition. (Disqualified animals are ineligible for registration.)

Doe – An unsprayed female rabbit.

**Ear Canker* – An inflamed, swollen, scabby

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condition of the lower inside ear of rabbits, caused by colonies of rabbit earmites.

Ear-Lacing – A black or dark colored line of fur outlining the sides and tips of the ear.

Elimination – One or more defects presumed to be temporary and curable. Cause for elimination in a show; or from registration until cured or corrected. (Elimination for overweight - or underweight - animal can compete in fur class.)

**Enteritis* – Nonspecific and mucoid types – Causes are unknown, but considered to be of bacterial origin; stomach and intestines may fill up with water, droppings being poorly formed and appear soft and jelly-like.

Eye Color – As described in breed standards; the color of the iris – the circle of color surrounding the pupil.

**Eye Infection* – Pus under eye lids in baby rabbits; eyes may stick shut caused by bacteria coupled with stress like cold drafts.

Faking – Any change in the external appearance of a rabbit on exhibition, with intent to deceive.

Faults – Imperfections or lacking ideal type for breed and variety, not serious enough to disqualify the rabbit. Some examples are: cheek spots too large, bars instead of spots, lack of taper in spine marking, or herring bone.

Fine Coat – Too fine in texture – lacking body. Guard hairs being too weak and thin in structure, similar to hairs making up the undercoat.

Flabby – The condition of a rabbit when the flesh or fur hangs loosely on the animal by its own weight – not trim and shapely.

Flank – The sides of the rabbit between the ribs and hips, above the belly.

Flat Coat – Coat lying flat or close to body. Lacking spring or body as evidenced to touch. Fine coat coupled with lack of density.

Fly Back – Fur properties which causes it to return quickly to its normal position when stroked toward the head.

Flying Coat – A loose, fluffy coat of fur, caused by undue length and thinness of under wool and weak guard hairs.

Foreign Color – As applied to rabbits. Any color of fur, eyes, or nails differing from the prescribed standard of perfection for the breed and variety in question.

Foot – That part of the leg on which an animal walks or stands. On the foreleg – that portion below the ankle or pastern. On the rear leg – that portion below the hock joint.

Forehead – The front part of the head between the eyes and base of ears.

**Fur Block* – Developing does are most susceptible, yet other animals may also pull fur, consuming it in large quantities, then the rabbit goes off feed and the blockage may occur in the intestine.

Genotype – The genetic inherited characteristics and potential of the stock.

Glossy – The reflected luster of brightness from naturally healthy fur in rabbits – a natural sheen of the fur enhanced by grooming.

Guard Hair – The longer coarser hair of the coat offering protection to the undercoat and furnishing wearing quality to the coat in addition to providing the sheen.

Hairline – A narrow white line running between the ears connecting the blaze and collar on the Dutch.

**Heat Prostration* – (Heat Stroke) Rapid res-

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piration rate, mouth open due to extremely high environmental temperature.

Hindquarters – The after portion or posterior section of the body, composed of loins, hips, hind legs and rump.

Hip – The thigh joint and large muscular first joint of the hind leg.

Hock – The middle joint or section of the hind leg between the foot and hip.

Hog Fat – The condition of a rabbit obviously over-fattened, and consequently out of proportion to the true type of the breed.

Hump Back – As applied to type – having a hump or protuberance on the back marring a gracefully arched outline.

Inbreeding – A system involving very close mating of stock such as brother and sister (full sib).

Inherited – The degree for which a trait or characteristic is transmitted from parent to offspring (progeny).

Inner Ear – The concave portion of the ear.

Intermediate – A rabbit six months of age, or over, and under eight months of age.

Junior – A rabbit under six months of age.

**Ketosis* – A condition associated with kindling time when overfat does go off feed and may starve themselves to death.

Kindle – To give birth to young rabbits.

Knee – The second joint of the leg – connecting the thigh and leg. In Animals – More properly called the “Hock”. (The second joint of the foreleg is the elbow).

Knock-Kneed – See “Cow Hocks”.

Lapin – French word for rabbit. Also, in fur trade, dyed rabbit fur.

Lazy Tail – A tail that is slow to assume its normal position when moved.

Line Breeding – A system of mating stock so that the progeny are highly related or close descendants of chosen ancestor.

Litter – Young of doe born at one time.

Loin – That portion of the back on either side of the spine and between the lower rib and the hip joint.

Loose Coat – Fur lacking density in undercoat coupled usually with fine guard hairs and a resultant lack of texture. (Does not indicate a slipping coat).

Lopped Ear – Pendulous; not carried erect; falling to the side or front.

Luster – Brightness and brilliance of fur.

Malocclusion – An inherited defect where upper and lower jaws do not permit the teeth to meet resulting in long uneven teeth extending out of the mouth.

Mandolin – As applied to type, having the appearance of the body of a mandolin laid face down – back and saddle arching toward the loins to make noticeably large and broad hindquarters.

Marked – Having the basic color broken up by orderly placement on a white (usually) background.

Massive – As applied to type – bulky and heavy; ponderous; large and compact.

**Mastitis* – (Blue Breast) Bacterial infection causing red to purplish and/or black nipples.

Mealy – Having the appearance of being powdered or sprinkled with meal.

Meaty – The quality of being able to carry a goodly proportion of meat in proportion to the size and type of a rabbit – a noticeable meatiness at the forequarters, back, saddle, loins and haunches.

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**Metritis* – (White Discharge) Bacterial infection of the uterus causing a white sticky discharge which may affect either or both uteri; infected does become sterile.

Molt (Moult) – The act or process of shedding or changing the fur, twice yearly. The baby or nest fur is moulted at two months, and the first natural coat of fur is fully developed at four to six months.

Muzzle – The projecting portion of the head surrounding the mouth, nose and lower jaw.

Neck – That part of the animal connecting the head and body.

Nest Box – Special box inside hutch or cage hole where the young are kindled and live almost exclusively for the first 18-21 days.

Nostrils – The two openings or apertures of the nose leading to the head.

Off-Colored – Applied to several hairs or patches of fur foreign to the standard color of the animal.

Open Coat – Same as Loose Coat.

Outcrossing – A system of mating unrelated stock of the same breed.

Pair – A male and female rabbit.

Palpation – A hand method used to determine if a doe has conceived and will bear young.

**Parasites* – Rabbits occasionally harbor mange, lice or fleas, but such parasites are very uncommon.

**Pasteurellosis* – (Hemorrhagic Septicemia) Bacterial infection coupled with stress factors causing loss of appetite, a nasal discharge and followed by pneumonia.

Patches – A small section of fur foreign to the color standard of the animal.

Paunch – The prominent portion of the abdomen.

Pedigree – A written chart of the male and female ancestors of a rabbit, showing the date of birth; ownership of dam and the parents, grandparents and great-grandparents of the specimen in question.

Pelage – The fur coat or covering of an animal, as in rabbits.

Pepper and Salt – A flat, unattractive appearance of black and white ticking, as in Chinchillas. Caused by lack of contrast and waviness, and in ticking and weakness of color in the tips of guard hairs.

Phenotype – The appearance of the individual rabbit.

**Pneumonia* – Infectious bacterial organisms causing labored breathing due to congestion in the lungs.

**Pot Belly* – A distended condition of the stomach and intestines usually found in young rabbits.

Poor Coat – Fur not in good condition through moulting, rust or ill health of the animal. Also caused by inattention to grooming.

Rabbit – A domesticated rodent of the genus Orctolagus Cuniculus.

Racy – As applied to type – slim, trim, alert and active. Slender in body and legs – harelike.

Ribs – The curved portions of the sides immediately back of the shoulders above the belly.

**Ringworm* – A fungus causing a loss of fur usually in circular patches on the head with red, scaly skin showing.

Rump – The hinder portion of the back and bones.

Rust – A reddish-brown coloration of fur, usually appearing on the sides, flanks or feet of rabbits, having the appearance of iron rust and being foreign to the standard

color. Rust usually appears in American Blues, Black, Havanas and Lilacs, and may be caused by fading through over-exposure to the sunlight, dirty hutches, or dead hairs about to moult.

Saddle – The rounded, intermediate portion of the back between shoulder and loin.

Sandy – The color of sand, as in sand-gray Flemish Giants. Gray with reddish brown cast interspersed with dark guard hairs.

Screw Tail – A tail that is twisted; a cork screw tail has more than one turn – a disqualification.

Self or Self-Colored – Animals of the same colored fur over the entire head, legs, body and tail. Not having ticking, agouti hair pattern, or shadings.

Senior – A rabbit six months of age and over in those breeds having two show room classes (Junior and Senior). A rabbit eight months of age and older in those breeds having three show room classes (Junior, Intermediate, Senior).

Shadow-Bars – Weakness of self-color in the fur of both fore and hind feet, appearing in the form of white or lighter colored bars running across the feet, and acting as a severe cut or penalty in scoring. Occurs more often in the agouti breeds than in selfs.

Shoulder – The uppermost joint of the foreleg, connecting it with the body.

Silvered – Having the appearance of silvery sheen or luster – an abundance of silver-white or silver tipped guard hairs interspersed through the fur so as to produce a lustrous silvery appearance.

Slipping Coat – A coat that is shedding or moulting a profusion of hairs.

Slobbers – Excessive salivation creating wet, or extremely moist, and unsightly fur around the mouth and lower jaw and forelegs.

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Snaky – As applied to type – slender, narrow body, thin and typical of the Himalayan.

Snipey – As applied to head – narrow and elongated, with an appearance of undue leanness.

**Snuffles* – A virulent contagious infection of the nasal passages and respiratory organs, usually terminating in chronic illness. Indicated by fever, heavy breathing, sneezing and discharge of thick creamy naso-pus from the nostrils.

Solid Color – Of the same color uniformity over the entire animal – not mixed with any other color. Devoid of markings or shadings. Includes ticked or agouti colored animals – also includes brindled animals, but not animals of basic “Tan” pattern.

**Sore Hocks* – An ulcerated condition of the foot pads or soles of either fore or hind feet of the rabbit. (A misnomer – not actually pertaining to the hock).

Spraddled Legs – As applied to forefeet – bowed outwardly when viewed from the front – knock-kneed. As applied to hind feet – not set parallel with the body; turned outwardly from the hock-joint.

Station – Ideal manner of standing of carriage in conformity with standard position or pose.

Stocky – Compact, stout and cobby.

Stops – In Dutch, white part of hind foot extending upward from toes ending abruptly about 1/3 way to the hocks.

Strain – A race or stock of rabbits in any standard breed of the same family blood, having the quality of reproducing marked racial characteristics.

Stringy – The quality of having ropy or sinewy finish – noticeably in the larger breeds of rabbits if not properly fattened for market.

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Sway-Back – As applied to type – having a distinct fall or scoop in that portion of the back between the shoulders and hind-quarters, as distinguished from gradually arching back.

Sweep – An unbroken flow of designated markings; there should be no gaps or congested areas.

Symmetry – (As applied to type in rabbits.) The quality of possessing a harmonious proportion of head, ears, legs and body structure conforming to the standard type of the breed represented.

Tail-Carriage – The way in which a rabbit carries the tail. Poor tail carriage is denoted by the tail being carried to one side or the other instead of correctly.

Tattoo – A permanent method for identification of animals, a punched code in the ear.

Texture – That quality of fur pertaining to its action when stroked toward the head. The character of fur as determined by feel or touch; such as: “fine” or “coarse” in texture.

Ticking – A wavy distribution of longer guard hair throughout the fur of a color distinct from the under wool or body fur. Such ticking is usually produced by black-tipped guard hairs, as in Chinchillas, Flemish Giants and Belgian Hares, and adds greatly to the beauty of the fur.

Tucked-Up – As applied to type – the trim appearance of a Belgian Hare, with long rounded body and breast and belly gathered in closely to form an arch when the animal is in a sitting position.

Type – As used in these standards – to denote body conformation of a rabbit, or shape of a particular part of the animal as in; “Head Type”. The general description of the physical makeup of the animal.

Typical – Serving as an ideal representative of any given breed or variety as applied to type, color, or fur quality.

Under-Color – The base of the fur hair – shaft next to the skin, not the belly fur of the animal.

**Urine or Hutch Burn* – Bacterial infection of external sex organs and anus – to avoid, use all wire cages.

Variety – (As applied to rabbits, “Type shows the breed and color the variety.”) A breed subdivision applicable to animals of any recognized standard breed, but distinct in color of fur from other races or subdivisions thereof.

**Vent Disease* – Venereal diseases in rabbits of both sexes. Indicated by scabby, reddened male or female organs, usually exuding pus.

Wall Eyes (Moon Eyes) – Having a milky

film over the cornea, or appearance similar to a moonstone. Colored eyes having an extremely light iris giving a galzed appearance.

Wool – Applied as descriptive of the fur of Angora rabbits – the guard hairs and under-fur being from 2½ to 5 inches in length and resembling fine wool in texture.

Wolf Teeth – Protruding or elongated teeth in either upper or lower jaw caused by malocclusion – improper alignment of the upper and lower front teeth preventing the normal wearing action.

Wry-Tail – Abnormally bent, curled or twisted permanently held to one side – a disqualification.

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