

New Rabbit Breeder Guide

LaReau Lops & Cavies 2009

Welcome to our hobby! Raising, breeding and showing rabbits often becomes a life-long hobby in which you'll have great fun, develop lasting friendships, all while enjoying the domestic rabbit!

We made this handout to assist you, *the new rabbit breeder*, and to help you get off to a good start in our hobby. I left out illustrations because the booklet is already a large enough file for printing. Should you desire more information and pictures, visit our website at <http://www.lopsandcavies.com/>

YOUR RABBITRY-General Considerations and Planning

Historically, rabbits have been kept outside the home and used for breeding, showing, meat and fur production. Most breeders keep their rabbits outside in a separate barn or outbuilding. Here are recommendations and considerations for whatever building you choose to house your rabbitry in:

- Protects against weather elements – rain, wind, sun, snow, etc. Insulated buildings work best.
- Sturdy and secure enough to protect against predators and unwanted visitors
- Ventilation is an *important* consideration – you can use passive ventilation but mechanical ventilation systems offer better results
- Cleanable flooring and walls
- Electricity is important especially for lights and fan usage
- Running water is nice to have, but optional if you are close to a water source
- Storage for rabbitry feed and supplies should be considered
- Disposal of rabbit manure should also be considered

Rabbit Cages

The new rabbit breeder can purchase cages from a variety of rabbitry equipment suppliers. In our Midwest area, Klubertanz Equipment, just south of Stoughton Wisconsin, provides quality rabbit cages in a wide range of sizes and options. Klubertanz Equipment has an online catalog and ordering system; <http://www.klubertanz.com/index.htm>, or you can do an internet search for 'rabbit cage suppliers' and surely come up with more resources, perhaps closer to you.

Here are common options and considerations when choosing your cages:

Cage Styles

Many breeders house their rabbits in '**stacking cages**'; three cages of the same dimension, attached one-on-top-of-another to form three cages in a column. Drop pans of either plastic or metal are below each individual cage, and the whole stacker can be on 'legs' or rolling casters to raise it off the floor and make moving it easier. This cage style allows the breeder to house more rabbits in a smaller space.

Another common cage style is the **hanging cage** – cages are not stacked on top of one another but rather suspended from the ceiling or walls, next to each other: There are no drop pans – the droppings fall to the ground underneath each cage. This style results in less cleaning work for the breeder and is often used when the breeder has a larger area available for the rabbitry.

Wire Flooring

Most breeds can use the standard 1" by ½" 14-gauge wire flooring. Smaller breeds, like the Polish, can use the smaller ½" by ½" 16-gauge wire flooring, especially for breeding cages. There are also options for using plastic-coated wire flooring for those breeds, such as Velveteen Lops, which may benefit from additional foot/hock protection.

Wire

Wire is 'galvanized', or coated with a rust/corrosion inhibitor, to extend its useful life. Cage flooring, which regularly is subject to rabbit urine, should *always* be 'galvanized after' which means the galvanizing compound is applied to the wire *after* the joints are welded together. Galvanized wire is more expensive but will last longer and is worth the extra cost. 'Galvanized before' wire is pre-coated with galvanizing compound before the joints are welded together – leaving the welded joints not as well protected against rust and corrosion. This type of wire is cheaper and commonly used for the cage walls and cage tops. You can also order your breeding cages to be made with '**baby-saver wire**' on the sides – for 4-6 inches up the side of each cage wall, the wire is spaced closely together, to prevent baby rabbits from falling out through the wire.

Cage Sizes

Welfare of your rabbits should be considered when choosing your cages sizes – your rabbit will spend the bulk of his time in his cage so you'll want a size large enough for him to move around freely but not so large that you cannot catch him when needed! Below are some recommendations for cage sizes – the last column is what I feel the ideal size cage is for that size of rabbit-*when in doubt, choose the larger cage size*. Choose the 18" high cages if you can afford it – they allow the rabbit to stand up and look around, plus does will have room to sit on top of their nestboxes (if your nestboxes have a partial top) which most like to do:

Rabbit Size	Minimum Sq Ft	Recommended Cage Size
xSmall, under 2lbs	1.5 sq ft/rabbit	18"x24"x14"H
Small, under 4lbs	3 sq ft/rabbit	24"x24"x18"H
Medium, under 6 lbs	4 sq ft/rabbit	24"x30"x18"H
Large, under 10lbs	5 sq ft/rabbit	24"x36"x18"H
xLarge, over 10lbs	5+sq ft/rabbit	30+"x36"x18"H

Cage Pans

If you use single pet-type cages or stacker cages, each cage will need a drop pan under it to catch droppings and urine. The old-style metal pans are quickly being replaced with molded plastic drop pans, which are much easier to handle, and last longer. The more expensive plastic pans are heavy plastic with a flat inside surface, allowing thorough scraping of waste products from the pan surface. There are cheaper plastic pans on the market, but most have some type of raised or indented patterns to the molded pan bottom which makes scraping harder to do since you have to clean around these bumps....

Floor Supports

If you raise a large breed of rabbit, you may want to invest in floor supports for each of their cages – these are metal bars installed just underneath the cage floor, extending from one side of the cage to the other. They give added support so the cage floor doesn't sag when the large rabbits are on it.

Feeders

There are two types of feeders on the market; food bowls, and hopper-type feeders. I use both in my rabbitry:

Feed bowls should be sturdy and large enough so the rabbit can fit his head into it. I use both ceramic bowls and the newer aluminum-cast bowls which seem indestructible. The only drawback to using bowls is you have to open each cage to feed, and must often empty the accumulations of 'fines' and any uneaten food.

The **hopper-type feeders, also called 'J-feeders'**, attach to the outside of the cage, and have the feeding trough inside the cage-these can save time during feeding because you simply dump the measured ration in from the outside of the cage. Usually the bottom has small holes or a screen to allow 'fines' to drop through the feeder. There are a few different styles; the older metal ones and many of the newer plastic 'J-feeders' must have some of the cage wires cut out to install them, but there are newer-style hopper feeders that attach without cutting the wire. If you choose to use a hopper feeder that requires you to cut the few small sections of cage wire to install it, also purchase a length of plastic door guide trim (available at the rabbit supply vendor for cheap) – you'll want to clip on a short piece of this to the *top edge* of the opening you just made in your cage so none of the sharp edges cut your rabbit's head when he is eating.

I don't recommend J-feeders for rabbits who spray urine a lot – they tend to hit their feeder and unless it is cleaned off quite often (daily) your rabbit will quickly end up with 'pee-face' – a nasty, sticky accumulation of urine on his forehead from sticking his head up against the dirty feeder while eating.

Watering Systems

Don't overlook how to supply water to your rabbit – this is very important! There are three common ways to provide water to your rabbits: bowls, water bottles, and a watering system.

Bowls – we use the heavy crock water bowls for our rabbits. They hold plenty of water, are difficult for the rabbit to tip over and are easily cleanable. They cannot be used in freezing weather though – if they don't break when the rabbit's water freezes, they surely may break when you are trying to smash the ice out of the bowls! There are also a variety of plastic bowls for water use – some clip on the cages, some are free standing, and some plastic bowls have wire holders to help prevent the rabbit from tipping them over. I've opted to use the clip-on bowls since I don't want my rabbits going without water, even for a short period, as can happen when they tip a free-standing plastic bowl over.

Some use **water bottles** for their rabbits. These keep the water clean but must be washed out and disinfected often to prevent slime build-up. Water bottles will not work in freezing weather – the water will freeze both in the tube and in the water bottle. Some use water bottles for does with large dewlaps so as to avoid wet dewlap problems.

Automatic watering systems – Mechanical watering systems are common in larger rabbitries – water is piped to each cage where the rabbit accesses it by pressing on a valve. There are many different systems available. The initial cost of these systems is usually recovered quickly, just in the time saved by not having to manually water each rabbit. I don't know much about these systems so you'll have to talk to a supplier or breeder who sells or uses them.

Urine Guards

When we first got into raising rabbits and purchased our cages, we ordered all cages with metal urine guards, thinking this would really help keep the urine in the pans, and not on the floor or walls. We were, for the most part, wrong. Many of the rabbits somehow managed to urinate through them, over them, on them, or under them and hit everything but the drop pan. I found the guards to be troublesome in that we had to constantly clean urine and sticky fur off of them, plus the occasional naughty rabbit would somehow manage to rip them off the cage and throw them around! We eventually removed all our urine guards and things are now much easier to keep clean. There are newer plastic urine guards on the market but I've heard that the rabbits love to chew on these, so they don't seem like a good option. Certainly, the choice to use or not use urine guards is your own, but I haven't found good reason to use them.

Other Cage Furnishings

There are a variety of products out there should you choose to use hay racks, litter boxes, etc. When we had French Lops, several used litter boxes and loved to just sit in them, but we don't use them for our smaller breeds. There are also plastic floor mats which I use in each cage to give each rabbit respite

from sitting on wire all the time – these are cheap, easily cleaned and available at most rabbit supply vendors. We don't use hay racks because our rabbits love to 'scoot' their hay from cage-end to cage-end, and I can't see denying them that pleasure!

Rabbitry Ventilation

A continuous supply of fresh air is required for your rabbits to maintain respiratory health. Usually, a complete air exchange of 10-15 times per hour is sufficient to keep your rabbits healthy, keep odors down, and keep flying insect levels down. There are a few different ways to provide ventilation:

Passive Air Ventilation

Basically, you are using windows, doors and vents to ventilate your rabbitry – allowing fresh air in and stale air out as needed. The drawbacks to this type of system are you don't have any control over the airflow – much of it is dependant upon the wind and air pressure. This works best in larger, open barns where air flow is already abundant. Some improvements can usually be made by installing additional vents throughout, or even installing turbine ceiling vents.

Mechanical Air Ventilation

To me, this is your best bet if you have electrical service to your rabbitry and the building is enclosable. In short, install a permanent, closed-motor exhaust fan in either the east or south end of the building – and provide venting or windows on the opposite end of the building. If you install a cycle-timer along with your fan, you can set it to run and replace your rabbitry air as often as continuously or as little as a few minutes every half-hour. These fan setups and information are available from many different farm supply stores and rabbitry suppliers. I purchased my fan, timer and switch from Klubertanz Equipment <http://www.klubertanz.com/index.htm>

Summer Ventilation and Heat Issues

Summer heat and humidity can kill your rabbit! His thick coat of fur makes him quite miserable when temperatures climb above 80 degrees. Couple high temps with high humidity and you've got a downright critical situation for your rabbits. Most breeders use portable fans to keep their rabbits cool with. Electrical safety must always be considered – your fans must be maintained clean and hair-free, and use quality extension cords suspended where rodents cannot chew through them. If you live in an area of lower humidity, you can use a 'swamp-cooler' type system – which essentially cools the air using cold water, or some with enclosable buildings may choose to air-condition their rabbitry.

Winter Ventilation and Cold Issues

Winter with its freezing weather can make your chore time downright miserable, but rabbits seem to tolerate it well. Fresh air is still important during winter – do not sacrifice air flow to retain heat! You may want to try to reach a happy medium of marginal warmth but good air flow.

Predators and Rabbitry Pests

Rabbits are subject to many predators and pests, and it is your job as the caretaker to protect them! Here are *some* common predators and pests along with recommendations:

Dogs

I can't tell you how often I hear horror stories from other breeders about how the neighbor's dogs got into their rabbitry and killed or maimed many of their rabbits! You have to build or modify your rabbitry to prevent dogs from gaining access to your rabbits – and don't think it won't or can't happen to you – dogs can come from anywhere, whether you are in a neighborhood or out in the country! Don't hold back – look at every aspect of your rabbitry – and secure it well. Dogs have been known to go through fencing, through tattered or rotted barn doors, and have even been reported to dig underneath buildings to get to rabbits. Even the best-made wire cages are no match for a strong, frenzied dog. Your job is to prevent

this or at least close off possibilities for easy access. For further reading, there is an excellent article here: http://www.showbunny.com/dog_attacks.html#DogAttack

Flying Pests

It is important to keep insect populations down in your rabbitry. Common summertime flying pests can be troublesome for your rabbitry; mosquitoes can torment your rabbits, flies can lay eggs on your resting rabbit, from which the hatched larvae burrow in and essentially live off your rabbit's flesh, slowly sickening or killing the rabbit, or the Bot fly larvae, Cuterebra, which can grow just below the surface of your rabbit's skin.

I am fortunate enough to have an enclosed building with screened windows and doors on it, but for many, this is not practical. If you cannot screen your rabbitry in, make use of fly tapes – hang many and change often. Also, buy lime (very cheap, 40lbs bag usually under \$4.00 at farm supply stores) and sprinkle it on damp flooring, manure, and even in pans between changes. You may want to invest in some of those automatic farm misters (approx \$30/ea at the farm store) which will regularly spray insecticide into the rabbitry air (make sure you find a product safe for your rabbits). *Probably the single biggest preventative measure you can take is to keep your rabbitry clean and manure-free, at least clean pans or remove manure often – at least every few days during warm weather, and dispose of the waste away from the rabbitry.*

Mice, Moles, Voles, Rats

These commonly invade your rabbitry during fall and winter, in their search for warmth and food. The smaller species can be caught with traditional mouse traps, strategically placed in the usual darkened pathways of these creatures. If you have rats, you may have to resort to either a commercial rat poison or traps.

Human Trespassers

Yes, you need to take steps to keep unwanted human visitors out of your rabbitry – if you can, lock your rabbitry, post no-trespassing signs at all entrances, and if you have a gate to the area, lock it. Unfortunately we live in a day-and-age of radical animal-rights advocates – I would advise you not to put up signage or any other clue indicating you have a rabbitry on your farm, and don't let any un-invited person in your rabbitry unless they have a legal warrant signed by a judge.

Other Rabbitry Equipment

We've covered the basics about your rabbitry and rabbit cages so far, here is a general list of other supplies commonly used in a rabbitry (we'll list supplies used for your rabbits later in this booklet):

- **General Cleaning Supplies:** wheelbarrow, shovels, rakes, brooms, dustpans, scrapers (like large putty knives) and cleaning gloves, hair/cobweb duster (kind on extendable pole are handy) trash can and bags
- **Cage Cleaning Supplies:** wire brushes (such as used in painting prep work) whisk broom, scrapers for dropping pans, vegetable scrub brushes to clean feed/water bowls with, assortment of buckets
- **Feed supplies:** metal trash cans to store feed in, feed scoops, bucket for feed, wooden pallets to store hay on
- **Carriers:** These are small, portable cages used to transport rabbits safely to and from shows. Each cage holds one rabbit, opens on the top for ease of use, and has a removable metal drop pan to catch droppings. These can be purchased at any rabbit supply vendor and come in many sizes and styles – each costing between \$15 and \$40 each.
- **Misc. Supplies:** light bulbs, extension cords, zip-ties, roll of flexible thin wire for repairs if needed, assortment of hand tools, fire extinguisher, fly tapes, bags of lime

Feeding Your Rabbit

Rabbits are strictly herbivores and have a very unique, sensitive digestive tract. Their system is fairly similar to a horse's digestive tract – they are sensitive to abrupt changes in diet, they cannot vomit to relieve digestive upsets, and they must have a constant source of fresh water to maintain gut hydration. They are healthiest when fed a consistent diet on a regular schedule, and when provided enough fiber (hay) to keep their digestive system continuously moving. A healthy pet or breeding rabbit is also a lean rabbit – not excessively fat. A show rabbit may carry a little more fat on it than its pet or breeding counterpart.

Pellets

Rabbits seem to do best on a maintenance diet that is low in energy, and low in protein, but high in fiber. Look for a fresh, high-quality pellet that is 16-17 percent or less protein to start with. I would not spend the extra money on a pellet that claims to be high-fiber if you plan to feed your rabbit hay consistently.

The staple feed in our show rabbits' diets is Purina Show Formula in the blue bag. This feed has 16 percent protein and a slightly higher than average fat content which give our rabbits' coats tremendous shine! We mix this feed with some rolled oats and feed this year round. Check the sell-by date on all bags you buy and shy away from those approaching 6 months or older.

Store feed in a cool, dry location, not in a plastic container though, and keep it away from vermin or other pests.

Changing Rabbit Feed

the change must be done gradually to avoid a digestive upset. Begin by feeding only the feed you got with your new rabbit for several days, then mix in a small amount of *your new feed*: every day mixing in more of your feed, until eventually your rabbit will be consuming all of your feed brand, and none of the seller's feed. This transition should take *at least* a week and preferably longer to do. If you experience any problems with this transition, please contact the seller right away for advice!

Our Feeding Schedule

We feed our rabbits pellets twice a day – morning and night. Once Holland Lops reach 3 months old, we restrict their feed – despite their high-metabolism, Hollands (and the Polish) are ravenous eaters and will quickly become overweight if allowed free-choice food. We recommend you feed rabbits you buy from us according to the schedule below. If you wish to change the schedule or feed, wait for at least a week after purchase, to do so, and again, make your changes gradually!

Recommended Feeding Schedule for rabbits purchased from us:

Morning: Holland Lop -¼ cup of pellet/oat mixture ~ check water ~ thin slice of banana
 Polish – heaping 1/8 cup of pellet/oat mix ~ check water ~ thin slice of banana

Evening: Holland Lop -¼ cup of pellet/oat mixture ~ empty & refill water ~ sm handful of hay
 Polish – heaping 1/8 cup of pellet/oat mix ~ empty & refill water ~ sm handful of hay

Additional Feed Notes:

Hay

We think hay is an important part of a rabbit's diet and we feed it to our rabbits every night without fail. Weanlings and moms with litters also get extra hay during the day. A diet including grass hay helps keep intestinal illnesses at bay.

Because of the number of rabbits we have, it is not practical for us to buy bagged hay similar to what is available from pet supply stores, so we buy full bales of hay from farmers. This is a lot cheaper – a bale of hay costs between \$3 and \$4 and one bale lasts us about 2 weeks (we also use it in nest boxes). Compared to the \$5 - \$8 per bag (and the bag I am talking about looks to be even less than one flake of hay from a bale!) of hay at the pet store – this is a tremendous savings!

If you plan to buy bales of hay – ask for **grass hay** suitable to feed to horses. These horse-hay bales are usually a mixture of mostly grasses and sometimes they have other plants and legumes (such as alfalfa and clovers) mixed in. Choose a bale that is dry, not dusty or moldy (you can see white powdery mold or very dark mold) and smells fresh. Hay that has turned brown is nutritionally still good- just not as appealing, but you are feeding hay for the fiber aspect anyway, not to derive nutrition from it. If you feed from a bale, pick through the hay first and remove any thistles, milkweed and other poisonous or 'foreign-looking plants' from it.

A bale of hay will last a long time (1 yr +) provided you keep it dry, vermin-free and allow good air circulation around it-*don't store on a cement floor*-keep it on a wood pallet or wood slats.

We feed a handful of hay to each rabbit at night – any more and it seems to get wasted or dirtied. There are hayracks available, but we just feed it on the cage floor because they love to 'scoot' it around, lay in it and dig in it after they eat!

Supplements and Treats

The only treat we offer our rabbits is a thin slice of fresh banana every morning – a thin slice about 1/2-1/4 in thickness. The banana slices started out as purely a treat for our rabbits, but since has evolved as a sort of 'indicator' of illness or problem – any rabbit *that does not eat his banana slice* probably has something wrong and is immediately looked over thoroughly!

We also mix in a **small amount** of rolled steamed oats with their pellet ration – and rabbits just love this! For the Hollands and Polish, you probably will not want to add more than a small pinch to their daily ration. We purchase 50 lbs bags of rolled steamed oats from feed mills, but you can just buy a canister of **old-fashioned** rolled oats from the grocery store to feed if you only have a few rabbits.

We don't advise feeding any other treats or supplements at all unless you are showing your rabbit. Rabbits consuming pellets, hay and their cecotrophes should not need additional vitamins, and in fact, vitamin supplements can cause more harm than good! Rabbits, even ill rabbits, manufacture their own supply of Vitamin C – and supplementation is never necessary (once I find the source where I read this information I will post it here)

Show Rabbit Supplements

If you intend to show your rabbit and wish to offer conditioning supplements, there are many commercially prepared conditioners on the market such as Show Bloom and similar products. Locally, Reilly's Rabbits sells a conditioning grain mix that many around the Midwest use – visit their website for more info: <http://www.reillysrabbits.com/> We use a home-made mixture of black-oil sunflower seeds, calf-manna, Omelene (Horse Chow), rolled oats and rolled barley – a small pinch is all that is needed! Do not overfeed supplements of any kind – rabbits do not require high amounts of additional vitamins and minerals and overuse may cause a host of digestive and health problems!

Cecotrophes

This is the one supplement that is necessary but you do not have to provide! Cecotrophes, commonly called **night-feces**, are small, moist, dark green balls stuck together, resembling a small cluster of

grapes. The rabbit's digestive system produces these daily, usually several hours after the rabbit has eaten, and the rabbit ingests these directly from the anus. Occasionally you may find excess cecotrophes in the litter or dropping pan – they appear quite different (dark, moist) from the regular feces, which are hard, dry round balls. Cecotrophes provide the rabbit with vitamins and proteins and are necessary for his well-being. Do not try to prevent your rabbit from eating his cecotrophes and don't be alarmed by it.

Water

Water is very very important to the health of your rabbit. Water should be from a source that your rabbit cannot readily tip over, especially during hot weather. Do not allow him to be without palatable water for any length of time! During freezing weather you must take great efforts to ensure he has access to drinkable water *several times per day* – DO NOT make your rabbit rely on ice or snow for his fluid intake and expect him to remain healthy- should you expect this of your rabbit(s) *hear me tell you now that you are too lazy to have rabbits!*

Vegetables and Greens

Some people still like to offer a variety of treats or greens to their pet rabbit – but since we do not practice this, I can't offer you any advice on feeding greens or vegetables. There are many good internet websites to find lists of greens, vegetables and treats suitable for your rabbit, along with advice on how to introduce each new food, should you choose to vary their diet from what we recommend.

Buying Your First Rabbits

Once you have your rabbitry ready to go, and have the essentials ready; cages, feed and water bowls, feed and hay, carriers purchased, you are ready to get your first rabbits.

Which Rabbit Breed?

People often made the mistake of wanting several different breeds right away, but this only makes it harder to concentrate on any one breed. You will have plenty of time later on to add breeds to your rabbitry!

Breed choice is your personal decision. If buying for a child, size and ease of handling should be considered, the size alone of some of the larger breeds can make them difficult to handle for a child. Space is always a concern – undoubtedly, your rabbitry will grow once you begin breeding – do you have lots of room to spread out or must you compact rabbits into a smaller space? The larger breeds will take up much more space, cage wise. There is much talk about different breeds' personalities and general temperaments but I think each individual rabbit has his or her own personality and you really can't attribute one personality or temperament to an entire breed.

Attend a local rabbit show to learn more

The best place to learn more about rabbits, meet breeders and purchase your first rabbits is at a rabbit show. You can find rabbit shows in your area by visiting the American Rabbit Breeders Association website at <http://www.arba.net/> and from the home page, click on the 'shows' link. You can then select your state or other search parameters to find upcoming shows.

Rabbit shows are usually held at fairground buildings and are free for you to come watch – just show up, early in the day and walk in. You will find the whole room filled with people and rabbits! Just start walking around and looking at all the different breeds people brought to show, watch some of the judging and be sure to talk to as many breeders as you can – most are helpful and will answer your questions.

If you are ready, you can purchase rabbits right at the show also – bring along *cash* as many breeders will not accept personal checks. You will need a '*carrier*' to transport your rabbit home in – usually you can purchase these at the show from a rabbit supply vendor.

Picking out rabbits

I'm not going to go into huge detail here, on how to choose your rabbits – visit our website's showing segment for more tips: <http://www.lopsandcavies.com/> For your first rabbits, choose adults who fit within the breed standard – when you find a rabbit that interests you, ask the breeder to point out its faults and good points for the breed, and be sure to tell the breeder what you want the rabbit for (showing, breeding, 4-H showing, pet rabbit, showmanship, etc.....) You can also ask other breeders to give you their opinions on the sale rabbit.

Once you decide on a rabbit, pay for it, and ask the breeder for a baggie of their current rabbit food so you can transition the rabbit slowly to your own feed. Be sure to get the rabbit's pedigree at the time of sale – this is the written record of the rabbit's ancestry and will be important for your future breeding records.

Bringing Your New Rabbit Home

Use some *common sense* when you bring your new rabbit home – don't transport him in the back of an open truck or in your trunk. When you get him home, put him in his cage, make sure he has water, feed and some hay and *let him get used to the new place*. Over-handling, before the rabbit is used to the new surroundings, especially of a young rabbit, may cause him to stress out and go off feed. You would be wise to keep your other pets or animals (such as dogs) away from his area for several days – many rabbits are fearful of other animals until they become settled in and secure in their surroundings.

For the first several days, transition the new rabbit over to your feed as I mentioned earlier in the segment about feeding rabbits.

Rabbit Behavior and Habits

Rabbits are prey animals and by nature tend to be timid, constantly wary of their surroundings, and ready for flight should they be suddenly alarmed. Despite their apprehensive nature, rabbits comfortable with their surroundings will exhibit some endearing responses to their humans! Rabbits also have a wide range of emotions and responses, some which may even surprise you. Below we've listed some common behaviors you can expect to see:

- 1) **Happy, content bunny:** This bunny will appear comfortable in his surroundings, his ears will be held in a natural position or forward, and he will appear relaxed and not nervous. The content bunny may sprawl out on the floor without much concern, or if he is active, he'll be inquisitive and play with his toys. If you listen closely, happy bunnies may also be *humming!*
- 2) **Playful bunny:** a series of head-shaking, jumping and playful bucking will be observed!
- 3) **Angry bunny:** yes, bunnies can get angry! Usually, if you've made bunny mad, he will face you with his head low to the ground and his ears back, the tail in the air just confirms that he is really mad! You may be in for a bite, growl or a slash with the front claws if you persist in angering him further!
- 4) **The shaking tail:** if you see your bunny's tail swishing back and forth rapidly, it is time to move out of the way, especially if your rabbit is an unaltered male – this action usually means he is going to spray urine any second – and it happens fast!
- 5) **Inquisitive bunny:** the long, stretched out body, held close to the ground, with the raised, outstretched neck and head tells you bunny is busy investigating something he is not sure of – you'll also notice his ears will be held forward, often as far as they can go!
- 6) **Leave me alone:** a bunny that doesn't want to be touched will usually retreat to the back of his cage and cower down. If you persist in reaching for him, he may turn into angry bunny (see above), or he will simply run or jump away to avoid you.
- 7) **Scared bunny:** a mildly alarmed rabbit will usually be ready for flight – he'll appear alert and will often start 'foot-stomping' with his hind foot, to alert others to the imminent danger!
- 8) **Very alarmed bunny:** A very frightened rabbit may loudly stomp his feet, and may race around his cage trying to escape from whatever is scaring him. Rabbits can really get hurt by doing this – they can break legs, rip nails off, and even break their back from their sudden, violent

movements! A rabbit that is in fear for his life or in sudden pain may **scream** – a sound you don't want to hear!

- 9) **The 'popcorn buck':** Several of our bucks occasionally do what we call 'the popcorn buck thing' for lack of a better term – usually seen after we use them for breeding or after they've discovered a new scent on the play table – we will see some quick, jerky movements of either their head or whole body, almost like popcorn popping! They only do this for a few seconds or so and I am not sure why they do it.
- 10) **Plopping:** ok, I know it sounds strange, but rabbits 'plop'! You'll witness a plop usually after your rabbit sniffs an intriguing scent – he will suddenly twist his head sideways and down towards the ground, with his body following- so he ends up on his side. Some rabbits can manage the full-fledged plop and end up completely upside down!
- 11) **Chewing:** If your rabbit is a natural chewer, provide him with something to chew on or he will quickly look for his own sources! By habit, they will chew on anything they can – cage wire, feeders, and your clothes, so it is best you provide him with safe alternatives such as unfinished pieces of pine, or fruit-tree branches (make sure branches have not been treated with insecticides or chemicals!) House rabbits allowed out of their cages may chew anything they can find, most often things you don't want damaged such as furniture, wood trim, carpet and the ever **deadly and dangerous electrical cords!** "Bunny-proof" your home and supervise him while he's out of his cage!
- 12) **Digging:** Every rabbit we've had enjoys digging! If allowed outside on a dirt/grass surface, they will quickly dig a hole to lie in, or if provided with a carpet scrap, they will try to dig through that! House rabbits may try to dig through your flooring, whether it be carpeted or not – so be watchful!
- 13) **Sitting up:** Rabbits love to sit up on their hind legs to look around. Their cages should be high enough to allow them to do this.

Adolescent Rabbit Behaviors

Once a rabbit begins to sexually mature – he or she may exhibit many natural yet annoying behaviors- most of which should not be too bothersome in a rabbit breeder setting.

If you purchased a young rabbit, he or she will begin to mature as early as 3 months old and this stage may continue well into the second year! Some of the behaviors you can expect from a buck (male) are: marking everything by spraying with urine (now this even will include you!), intense pre-occupation with surroundings and other rabbits and constant "chinning" or marking territory with a scent-gland located under their chin, aggressiveness, biting, and scratching. Does will exhibit the same behaviors but usually don't spray urine as much, and some does will 'dig' as if trying to make a nest! Does do seem to show more 'territorial' instincts such as 'defending their cage space' by attacking invaders with their claws and even their teeth! Does will often continue this territorial behavior (although to a lesser degree than what is exhibited during adolescence) for the rest of their lives, or during breeding season.

There is not much you can do to prevent these behaviors – they are purely instinctual and expected! Do not become frustrated by your rabbit's behavior and realize that they will grow out of this phase! *Don't spay or neuter your rabbit if you intend to show it, even in 4-H.* If you want to use the rabbit as a pet or show in the pet rabbit class in 4-H, you can spay or neuter your rabbit to diminish these behaviors.

Handling Your Rabbit

Most rabbits will become tame and easy to handle after they get used to you and get used to being handled on a regular basis. A young or seldom-handled rabbit, or a rabbit who feels insecure, will struggle when you pick him up, causing you to get scratched about the arms, so we suggest you always wear long sleeves when handling your rabbit until he has more of a predictable behavior!

Rabbits can move quickly and with little regard about where their struggles will take them- be prepared to keep a firm grip on your rabbit or he could literally shoot out of your arms! If your rabbit is ever struggling enough to make you think you might drop him, quickly lower yourself so at least he won't have as far to fall.

How to pick up your rabbit

NEVER PICK A RABBIT UP BY HIS EARS! Rabbit ears are sensitive and contain many blood vessels and nerves – you could really hurt your rabbit by lifting him by his ears! Another important concern is that rabbits are relatively fragile – their skeletons are very lightweight for their size, this coupled with their tremendously-powerful hind legs can cause a struggling or wrongly-held rabbit to easily suffer bone or spinal fractures.

To pick up your rabbit – first, let your rabbit know you are coming! Grabbing a rabbit while he's napping will completely startle him! Next, take one hand and slide it over his head and ears so you have his ears under your hand – your hand should end up at the nape of his neck. Steady him with this hand while you slip your other hand under his hind-end – then grasp the nape of his neck and 'scoop' him up to your chest. It is important that you do *not grasp just his ears*- your hand over his ears is to help keep him from moving away from you.

Carry the rabbit by putting him in a 'football' hold – tuck his entire head in the crook of your arm, using that same arm to hold his side firmly against your body, then put your other hand on top of him to prevent him from jumping out of this position (and to keep his head tucked into your arm). This is a safe way to hold your rabbit and generally keeps even the most unruly rabbit secure.

Once your rabbit is used to being handled and allows you to pick him up without struggling – you can pick him up by grasping his mid section with both hands, carefully lifting him to you-don't try this until your rabbit is thoroughly used to your handling though – a wildly struggling rabbit held only by his midsection, can be injured severely! If you have a larger, heavy breed rabbit, don't pick him up by his midsection – you need to support his hindquarters too.

Enrich Your Rabbit's Environment

Although your caged rabbits may appear to be content from day-to-day, I believe they benefit from having toys and play things to keep them occupied. We provide a variety of toys to our rabbits – plastic cat roller cages with the bell inside, cleaned and emptied Roloids plastic jars with rice kernels inside, empty cans with smoothed edges, pieces of cardboard (minus tape, labels, staples, etc), toilet-paper rolls stuffed with hay, and pieces of untreated wood. We clean and rotate toys so the rabbits don't get bored.

We also let most of our rabbits (one at a time) out to 'play' in an enclosed area stocked with a variety of items – boxes, carpet samples, piles of hay, etc. – *be watchful if your playpen area is outside – predators have been known to take advantage of the owner's absence.*

Grooming

Nail Trimming

Your rabbit's nails will need to be trimmed periodically, probably every other month if not more often. We like to use a small scissors-type trimmer commonly available for cats but you can purchase any of the variety of nail trimmers on the market, and even use a human nail clipper for the job! Before you start, have either some styptic powder or a styptic pencil handy or a tablespoon of plain flour or cornstarch (to stop bleeding if you cut too deep) along with a clean rag.

White nails are much easier to do because you can see where the blood vessels inside end and avoid cutting that short. **Dark nails** – you will have to guess or look at the underside of the nail to find where the quick ends, but you should be safe by just snipping off the pointed tips. Don't forget the **dewclaws** on the inside of the front feet! If you draw blood – *it will stop* so don't panic, but you may want to put some styptic powder or flour on the bleeding nail to stop the bleeding quicker. Styptic solutions can sting, so your rabbit may jump a little! For a few days after rabbit's nails are clipped, they will be very sharp so take special care handling him so you don't get scratched!

Nail Trimming if you have a helper: One person can hold bunny, while the other clips nails – the ‘holder’ can grasp the bunny by the nape of the neck/shoulders – place the other hand on the top of the rabbit’s rear end – then lift the shoulders up as if you are going to pick the rabbit up – at the same time, use the other hand to flip the rabbit’s rear end under and towards you so that you end up with an upside down rabbit. Unruly rabbits can sometimes be calmed by gently stroking their forehead while they are upside down. The other person can gently grasp a foot, push back the fur to expose the nail and clip the curved tip off.

Nail Trimming - one person job: Depending on your rabbit – you alone can flip him over and wedge him slightly between your thighs, as you are seated – then clip his nails. For a rabbit that struggles a little more, you can hold him in a reverse football hold – turn him upside down and wedge him, headfirst, into the crook of your arm- use your arm to keep him wedged against your body while you clip his nails with your free hands.

Other Grooming

Molting Rabbits shed their coats a few times a year, and a complete molt can also occur because of erratic temperature changes, seasonal changes, dietary changes or stress. Molting can appear as just patchy fuzzy, loose hair or it can be more extensive with large seemingly bald patches all over. Both are normal. During a molt it is a great idea to brush the loose hair from the rabbit so he doesn’t ingest it. You can use small cat slicker brushes or a small comb for this and a good way to remove hair is to wet your hands with water, then run them over the rabbit – loose hair will stick to your hands: just rub your hands together to “ball up the hair” for easy disposal.

Baths Your rabbit should never need a bath! Spot cleaning of his fur can be done if you are concerned about urine stains or dirt – you can use a clean cloth or cheesecloth soaked in warm water, perhaps with a little hydrogen peroxide to clean white fur and follow with some powdered corn starch to facilitate drying. Don’t get this in his eyes though!

Ears We’ve never had a problem with dirty ears or ear mites with any of our rabbits, although some can develop a slight waxy build-up inside, which can be wiped out using cheesecloth moistened with a little plain mineral oil.

Eyes Rabbits only have one duct, in the front corner of each eye, to serve as tear drainage. Dust, hay particles and other dirt can easily plug this single duct up resulting in tears backing up and spilling over onto the rabbit’s fur around his eyes. If this blockage is not resolved, infection can follow – symptoms being redness, swelling and irritation of the eyelids, eye discharge, fur loss around the eyes. If this infection is not addressed it can spread through to the sinus cavities and teeth roots, internal ears and even make its way to the rabbit’s brain! If you notice symptoms of infection, you might try treating with a course of antibiotic eye ointment as sold at farm supply stores. Any signs of an infection or eye problem that does not clear up within a few days warrants a trip to the vet – sometimes the vet will need to flush out his tear duct or provide you with stronger antibiotic eye medicines to clear an infection.

French Lops and Holland Lops and other breeds with blocky-type heads are more prone to eye problems than other breeds and especially in French Lops with the huge bulldog heads – *it can be difficult to even see their eyes* – so you must take the time to look at their eyes on a regular basis!

Dirty bottom – check to make sure your rabbit’s bottom is clean! Most rabbits do an excellent job of self grooming but occasionally you might find some soft fecal matter stuck on your bunny’s bottom! Holland Lops have fairly long, thick hair, which seems to encourage the soft cecotrophes to stick to this feathery hair.

You will need to carefully remove dried or stuck fecal matter – use a small scissors or clipper, being careful *not* to cut bunny’s skin (or testicles if he is a male!). Still-soft fecal matter can be gently removed with baby wipes or a warm, damp cloth.

If you find this problem often, you need to look at why this is happening – this can be caused by an incorrect diet too high in starches, or too high in protein. An obese rabbit may not be able to reach all the areas that need cleaning-and will need to be put on a gradual diet.

Rabbit Health and Illness

A few important things you need to know about rabbits:

- 1) Rabbits, being prey animals, are masters at hiding illness or disease! You must thoroughly and regularly handle and inspect your rabbit for signs of illness or disease so you can catch any problems before they become chronic or untreatable! More on a rabbit health exam is below.
- 2) Rabbits, like many other species, carry many organisms within their bodies, naturally. The healthy rabbit's immune system normally keeps these organisms in check, preventing any illness or disease. When a rabbit's health becomes compromised, such as by; stress, injury, exposure to illness, subject to extreme temperatures/fluctuations, and poor or inadequate feed or water, these disease-causing organisms can flourish, grow and cause disease in the rabbit. Rabbit illness is not always caused by exposure to another ill rabbit – so it is important to care for your rabbit in a way to reduce stress and prevent illness!
- 3) Reducing stress plays an important part of your rabbit's well-being – most rabbits are affected by stress, even simple transitions such as moving to a new cage, or switching routines can stress a rabbit! Rabbits can show stress symptoms several days *after* the event that caused the problem – so it can be difficult to determine the exact cause. You need to be attuned to environmental factors that could affect your bunny! Rabbits seem to thrive best when fed and cared for on a routine schedule without drastic changes. Emphasis should be put on reducing stress and making all changes and transitions slowly!

Rabbit Vets

Finding a great rabbit vet can be challenging; in many areas, vets do not have extensive training or opportunity to treat rabbits on a regular basis and therefore are not as familiar with rabbits as one would like. It is important that you find a vet either before, or soon after you get your first rabbit so you can be prepared in case of a medical problem. Of course, choosing a vet is a personal decision dictated by what you feel is important, but we have put together a list of some things to consider:

- Experience – does this vet have enough experience treating rabbits?
- Is the vet located close by or do you have to drive for an hour to get there?
- Is this vet available and willing to see your rabbit on an emergency basis? What are weeknight and weekend emergency policies?
- General cost – it never hurts to find out some costs for general services such as- standard office visits, x-ray, emergency charges, etc.
- What are the payment policies? Do you have to pay for services immediately or will they allow you time to pay?

The vet we chose doesn't have a lot of experience treating rabbits because there are virtually none in my immediate area. What our vet does have though is the willingness and the ability to research medical problems and treatments to find the best solution to try for any rabbit we take to him. He also listens to us and takes into account what we think is wrong or what needs to be done – we have a nice 'working' relationship with our vet when it comes to treating our rabbits.

Rabbit Health Exam

Ideally, you will take your rabbit out **often** and look him or her over for any signs of illness. Any unusual behaviors or symptoms can be the beginning signs of an illness.

Begin by first observing your rabbit in its cage – How does your rabbit act? *Is your rabbit acting like he normally does* or is he hunched in a corner or acting in a way that is not usual? Is your rabbit sneezing, coughing, panting or grinding his/her teeth or otherwise indicating illness, stress, or pain? Is your rabbit moving normally or is he or she limping or seems unable to move? Has your rabbit consumed the usual amount of feed and water? Check the fecal matter in the drop pan – many hard fecal balls

should be present, normally sized for your rabbit and there should be no diarrhea or loose stool present. *Basically, any behavior that is not normal for your rabbit may indicate a problem and warrants a closer look.*

Next – take your rabbit out of it's cage and:

- 1) Feel over your entire rabbit's body for unusual lumps, tender areas or injuries. Abscesses can feel like a soft, mushy lump under the skin and can be found almost anywhere on the body. Don't forget to check the toes and feet also!
- 2) Inspect the eyes-they should be clear, bright and fully open. There should be no tear-staining or wet fur, mattery substance, discharge or drainage.
- 3) Ears should be clean inside, with perhaps only a very slight waxy film down in the canal. A dark coloring inside the ear canal may indicate ear mites.
- 4) Vent area (bunny's bottom) should be clean and free of fecal matter, dry and fully furred except for the male's scrotum area (you should be able to find both the adult male rabbit's testicles). (please note that the males will not have nipples, the females do and they are usually located in two rows starting as far up as between the front legs, going all the way down to the vent area)
- 5) The nose should be dry and clean – no mucus or wetness should be present. During hot, humid weather, some rabbits will exhibit a slightly wet nose – but the discharge is completely clear-this is ok if the rabbit otherwise is acting completely normal.
- 6) Bunny's mouth should also be dry, and the skin to the lip/mouth/nose area should be healthy-looking, not reddened or irritated. Periodically check the rabbit's teeth by gently and carefully separating and pulling up the upper lips. The top teeth should be straight, even and be placed slightly *in front of and over* the bottom teeth. Both bottom teeth should be straight, even and placed slightly behind the top teeth. There is also a second set of these incisors, located directly behind these teeth – they are difficult to see though and it doesn't appear necessary to inspect these unless further mouth problems become evident. It is extremely difficult to inspect the molars – you cannot see them easily – if you feel this necessary, have your vet do it!
- 7) All skin areas on the body should be dry, clean and not appear reddened or irritated.
- 8) All normally furred areas should have a thick fur coat that is clean, not matted or missing (unless the rabbit is molting). Ears and footpads are normally furred areas of the body – be concerned if they are not.
- 9) Lastly, check the coat for parasites or skin infections. Often you cannot see fur parasites such as lice or mites, but will notice a heavy concentration of dandruff-type stuff around the scruff of the neck or base of the tail area.

Common Illness and Health Problems

This is a *very basic* guide on common illnesses and health problems, meant to acquaint the beginning rabbit enthusiast with some of the more common diseases and illnesses rabbit can get. Please visit our website <http://www.lopsandcavies.com/> for more in-depth articles addressing specific health issues. I am not a vet, so any information you use here is of your own will – I cannot guarantee treatments or advice given here will work for your rabbits!

Quarantine Sick Rabbits

Any rabbit that has an illness that *could be passed on to another rabbit* should be quarantined away from your well rabbits. This will help protect your other rabbits from also becoming ill. Keep in mind the area you use to quarantine sick rabbits should be secure and also protect the ill rabbit from temperature extremes, intruders and other dangers, the quarantine area should provide a low-stress recovery/treatment area for your ill rabbit.

You will also need to take measures so you don't inadvertently carry germs from your sick rabbit over to your healthy rabbits – after caring for your ill rabbit, wash your hands, change your clothes and shoes

before you enter the area with your well rabbits, and do not use the same feed/care equipment for both groups!

If your rabbit has an illness that most likely cannot be passed on to another rabbit, don't move him from his cage or cage mates during treatment – for example, if you are treating a rabbit suffering from woolblock or furblock, it is less stressful for the rabbit to be kept in his familiar cage during treatment rather than move him to a separate area – especially since this is not a communicable disease.

Digestive system problems

Rabbit Not Eating

Many rabbit illnesses begin with the rabbit going off feed. You may notice that your rabbit did not eat all his pellets and perhaps he didn't drink much water either. Usually within that same day, you'll notice that your rabbit did not poop as much as usual, or his fecal pellets are much smaller than normal. Do not ignore these symptoms or take a 'wait and watch' approach – treatment should begin immediately!

Symptoms: Rabbit not eating or drinking, very few or smaller-than-normal-sized fecal pellets in litter box or pan, OR the complete absence of fecal pellets.

Causes: There are *so many* possible causes for a rabbit going off feed: spoiled or bad pellets, mycotoxins in the rabbit's pellets or hay, spoiled or moldy hay, dirty or contaminated water, general reaction to stress, illness, and fur or woolblock and gut stasis, acute dental issues, are just a few of the more common reasons.

Treatment: The first thing we usually do with a rabbit that is not eating, is to give him a dose of a probiotic gel. You can buy this at almost any pet or farm supply store and is a nice product to have on hand, some brands being: Benepac, or ProBios. Treatment beyond this differs greatly with what other symptoms develop-and what the causes are. Most early treatment is aimed at encouraging the rabbit to eat and drink again and supporting body functions until eating and drinking is well established again. Usually, one should remove the current feeds (pellets) and give the rabbit some tempting grass hay to eat. If your rabbit doesn't start eating hay and drinking again soon after a dose of probiotics, we suggest you take him to your vet or contact us (or another breeder) for more advice. Visit our website for more info!

Prevention: Some breeders are successful at preventing digestive upsets by feeding quality grass hay every day and closely monitoring feed and water intake – being alert to any changes. Some breeders try to reduce the chances of high dose mycotoxin poisoning by mixing together 2 or 3 different brands of rabbit feed- therefore 'diluting' any one feed that may be carrying a high number of toxins.

Woolblock or Fur Block

Rabbits ingest their own fur when they groom themselves and normally, this doesn't cause a problem – the fur just moves through the digestive tract and is expelled. For unclear reasons, some rabbits may suffer from woolblock or fur block – when the hair/fur binds up or hardens and doesn't readily pass through the rabbits digestive system causing a blockage or a slow-down of the gut. This is more common in the wool rabbit breeds or in rabbits that are molting.

Symptoms: Rabbit doesn't eat and may or may not drink. Little or no fecal pellets or smaller-than-normal fecal pellets, rabbit may appear to 'strain' as if trying to defecate. Rabbit may stay in back of cage, relatively inactive and may even exhibit pain by grinding teeth.

Treatment: Many breeders will begin treatment by feeding the rabbit a 'cat-lax' type oil product designed for cat hairballs and meat tenderizer. Visit our website for a detailed article on treating woolblock and how to make a treatment slurry. <http://www.lopsandcavies.com/> A rabbit getting worse (or not improving) should be seen by a vet – who will most likely x-ray the abdomen to identify any problems and then formulate a more effective treatment plan.

Prevention: Brush and remove loose hair from all molting rabbits and their cages. Feed hay on a daily basis. Clean, fresh water must be available to the rabbit at all times. Some breeders swear by feeding occasional or weekly fresh papaya or pineapple, or enzyme tablets.

Diarrhea

Diarrhea is caused by an imbalance of the bacteria within the rabbit's gut, which can be attributed to many different things such as disease, stress, internal parasites, weaning, feed that is improper or toxic/spoiled, antibiotic use and more!

Symptoms: loose or watery stools along with; refusal to eat or drink or excessive thirst, rabbit hunched up in corner or over food/water dish, grinding teeth or in other obvious pain.

Treatment: For all cases of moderate or severe diarrhea – I would immediately call your vet or a breeder for help – this can be life threatening! Even mild cases of diarrhea, especially if it continues more than a day or so, can be dangerous for your rabbit. The first step is to remove all food and offer clean, grass hay and plenty of clean water. Do not offer treats, pellets or greens to a rabbit with diarrhea! If you are treating mild diarrhea – it is *generally* safe to watch carefully for a day (while offering only hay and water) for improvement – if no improvement, I suggest you call your vet. It is up to you if you want take this 'wait and see' approach for mild diarrhea; some illnesses can kill your rabbit even with only mild diarrhea as a symptom. Again, your vet should treat moderate or severe diarrhea immediately!

Prevention: If your rabbit has suffered a bout of diarrhea, you must look at all possible causes – many mild cases are related to feed or feeding practices! Follow a stringent schedule of cleaning and disinfecting and feed only high-quality, fresh feeds in the proper amounts. If your rabbit has repeated bouts of mild diarrhea – switch to a new, fresh bag of feed to see if that takes care of it, or take stock of other treats or greens you are feeding your rabbit – you may have to back off or stop feeding these extras!

General Illness Symptoms

These are just general symptoms that may indicate your rabbit has a developing illness. Rabbits do not catch the common human cold virus but can catch some viruses and bacterial illnesses from other rabbits, animals, vectors and the environment. Common symptoms:

Sneezing: Rabbits can occasionally sneeze when they are doing things such as eating or drinking, digging in hay or other materials, in a windy or dusty area, and rarely, rabbits will sneeze because of allergies. Other than during these occasions, rabbits who sneeze more than a few times or who sneeze repeatedly may have an illness that needs to be addressed, especially if he or she also has any other 'cold' symptom as listed below. Continued or repeated sneezing, in itself is not an illness, but rather an indicator of an illness or something wrong.

Runny Nose: Any rabbit with a white or colored nasal discharge **is ill** or has something in its' nasal passages causing inflammation and infection (rare-but can happen so look in each nare). This is not a normal condition and again, indicates disease or illness. Oftentimes, the fur on the inside of the front feet will appear matted or dirty from the rabbit's attempt to clean his or her nose. A note: I have heard from several breeders that healthy rabbits will sometimes develop a slightly wet nose during periods of high humidity – but this discharge is completely clear and is only enough to barely wet the hair immediately surrounding the nares – there should be no running or profuse discharge at all, and no other symptoms of illness.

Eye Infections: If both eyes have a discharge, matted wet fur around or below the eye, swollen or red eyelids and or an irritated or enlarged third eyelid (the whitish membrane in the front corner of the eye that is usually not visible – (*a note* – this 'third eyelid' of the eye can be normally enlarged in bucks during breeding seasons giving the impression there is a problem with the third eyelid,) these symptoms indicate either an eye infection or a general illness or disease. If only one eye is affected – your rabbit may have suffered a scratch or other injury to his or her eye, or there may be dirt or a foreign object in it. Eyes can be gently flushed with sterile eyewash and a Terramycin antibiotic *ophthalmic* ointment can be used to

treat infection (read the label for instructions, but usually a ¼” ribbon of the ointment is placed in the eye 3-4 times per day for 5-7 days.) Vet care is needed for moderate to severe, or for persistent eye infections.

Ear Infection or “Wry Neck” Wry neck is not necessarily an ear infection but the symptoms are similar for both so I’ve grouped these two together. Some sources claim this affliction is the result of an inner-ear infection often caused by pasteurilla, or a protozoan parasite infection caused by e. cuniculi. Our limited experience with wry neck/ear infections is that it presents itself in very young rabbit, who all the sudden holds his head slightly to one side and may ‘slightly sway back and forth’ as if he is trying to get his balance or is dizzy. Left untreated, this can rapidly progress into a full-blown case with the rabbit’s head completely turned/twisted, loss of balance which may include rolling around, and may also include symptoms of mild eye infection. I have read numerous resources on Wry neck and have tried different treatments too – the most effective treatment we’ve used is oral Ivermectin (a dewormer you can get from your vet or from Farm Supply stores – but get the dosage from your vet or an experienced breeder or you can overmedicate and hurt your rabbit!). Some people have had success treating wry neck with antibiotics – consult your vet for a treatment plan. Visit our website for more into on this condition. The prognosis for full recovery is guarded.

Any one of the above ‘cold symptoms’ or a combination of these symptoms can indicate an underlying disease or illness in the rabbit. Many different diseases can cause all or some of these symptoms – some of the more common being pasteurilla (snuffles), and bordatella (similar to Kennel Cough in dogs), but there are many others too. Many of these disease organisms are already present in the healthy rabbit and something happened to upset the immune system allowing the organism to flourish and cause disease. In other cases, your rabbit was simply exposed to a strain of an organism that readily causes disease or that is tougher to control or eradicate. Disease can cause a mild or chronic flare-up or may manifest itself as an acute infection.

If you have an existing herd of rabbits, you will have to decide on a plan for rabbits that are infected with an incurable disease. Even though many incurable rabbit diseases can be ‘knocked’ into remission with antibiotics, a previously ill but recovered rabbit can be sort of a ‘time bomb’ for your rabbitry – passing disease among your other rabbits and others they come in contact with, and even later becoming ill in response to stress (such as going to a show). Many long-time rabbit breeders will not keep such a rabbit in their barn for these reasons. This is an issue that can be very difficult to ethically resolve – if you are a new breeder and find yourself in this position, please seek advice from other experienced breeders so you can make an informed decision.

Other health conditions

Wet Dewlap

This usually occurs when does repeatedly get their dewlaps wet while drinking water, and the weather is hot and humid – never allowing this area to dry properly. Staph infection or fungus growth can result if not treated soon.

Symptoms: usually in does with large dewlaps – hair will appear matted and slimy under the chin and neck area, sometimes spreading throughout entire dewlap. Progression of this often results in hair loss, skin irritation and infection, sometimes turning the remaining hair greenish.

Treatment: The object is to keep the area clean and dry –we’ve had excellent results spraying a diluted **Nolvasan** (available from most farm supply stores) solution on the neck and dewlap of does with wet dewlap. Some people prefer to use hydrogen peroxide or similar drying agents to treat this condition.

Prevention: This often results in does that play in their water or have a large water bowl. A solution for this would be to use a heavy water bowl that is more of an upright and narrow shape versus low and wide – this way the doe can’t fit her whole head into the bowl to drink. Some people put a large rock or floating plastic ball in the water bowl to minimize the drinking area too.

Others revert to using a water bottle, instead of a bowl, during summer months, when this condition is most prevalent.

Mites and other external parasites

Rabbits can pick up different external parasites – mites, mange and lice, but most of these parasites do not like the thick fur on rabbits, so infestation is usually minimal or sometimes not even noticed.

Symptoms: I am not going to go into detail about specific parasites – just in general, if you can see small moving bugs on your rabbit, or if you see a lot of dandruff-type gunk on your rabbit, he or she is probably hosting some type of external parasite – look for signs near the base of the tail, scruff of the neck, and around the eyes and mouth areas. You cannot see all external parasites—many are microscopic! Other symptoms of infestation may include poor hair coat, continual molting, unthrifty appearance, excessive scratching.

Treatment: Treatment is different for different parasites – your vet can determine which parasite your rabbit has. Basically, Ivermectin is an excellent treatment for biting or blood-sucking parasites. Lice and some other external parasites may not be affected by Ivermectin and you'll need to use a different product. DO not use over the counter medications/flea/tick treatments without talking to your vet – some can cause a deadly reaction in your rabbit! Thorough cage cleaning and disinfecting are needed after each treatment, and you may also have to treat your entire rabbit herd all at once.

Prevention: There is not a lot you can do to prevent infection other than keeping your rabbit away from other rabbits, which may not be practical for you.

Ringworm

Rabbits can have ringworm – and this can be passed back and forth between rabbits and humans! Ringworm looks like flat, raised patches on the skin. Contact your vet *and* your doctor if either of you contracts ringworm!

Internal parasites

Rabbits can get internal parasites such as protozoan infection and worms, but most do not cause substantial health problems for rabbits unless severe infestation is present. None of the internal parasites considered common in rabbits, are a threat to humans with healthy immune systems.

Symptoms: Unthrifty coat, weight loss or failure to gain weight, potbelly, excessive thirst or hunger, mild diarrhea, moderate to severe diarrhea may indicate severe infestation or other illness.

Treatment: Treatment must be specific for the parasite – see your vet for diagnosis of the parasite and he or she can recommend proper treatment. Most commonly, Ivermectin and Piperazine are used to treat internal worms and sulfa drugs are commonly used to treat coccidian infections.

Prevention: Sanitize cages and litter pans frequently and don't allow rabbit to dig or burrow outside in dirt that other animals have access to. Remove poop and urine build up from all cage floor surfaces thoroughly and daily- this will greatly cut down on developing parasites and their eggs.

Keeping It All Clean

Keeping your rabbit cage, equipment and your rabbit's environment clean will go a long way in promoting a healthy existence for your rabbit.

An important thing you can do to prevent the spread of disease is to **wash your hands before and after handling your rabbit** or your rabbit's equipment (feed, bowls, etc)! Also make sure your clothes or shoes are not contaminated with germs from another pet or rabbitry!

Cleaning Product Terms

First, some terms and definitions for you, courtesy of The University of Nebraska, Cooperative Extension <http://ianrpubs.unl.edu/animaldisease/g1410.htm>

Antiseptic chemicals used to inhibit or prevent the growth of microbes on living tissue.

Disinfectant chemicals used to inhibit or prevent the growth of microbes on inanimate objects.

Sanitize reduce the number of microbes to a safe level.

Sterilize eliminate all microbes (inactivates or kills).

Bactericide kills bacteria.

Fungicide kills fungi.

Viricide kills virus

Sporicide kill spores (fungi and bacteria).

Biocide kills living organisms.

Bacteriostat inhibits the growth of bacteria.

Cleaning Products

There are a variety of cleaning chemicals and solutions used in rabbitries. Below are some of the more common ones. NOTE: Do not use any **phenol-based** cleaning product (such as PineSol) as rabbits are very sensitive to this chemical! Whatever cleaning solution you decide to use – keep in mind that ALL must be thoroughly rinsed from all surfaces your rabbit will come in contact with!

Nolvasan – (chlorhexidine diacetate) this disinfectant is effective against at least 60 different bacteria, fungi, yeasts and viruses. It causes little to no skin irritation and is non-corrosive. The concentrate is available in different sizes and is available at most farm supply stores and rabbit supply companies. Nolvasan has the ability to clean and disinfect – making it a one-step product we like to use.

Bleach – by far, this is the most popular disinfectant used. Bleach is still one of the most effective tools used to disinfect and kill germs and is effective against many germs that are untouched by other products. Bleach is the preferred product to use if you are disinfecting due to any illness or disease. The downsides to using bleach are it's corrosiveness (hard on cage wire!), irritating fumes, and it causes skin irritation. Bleach cannot work on dirty surfaces – you must first wash all surfaces then use bleach to disinfect. You must remove your rabbit from the area until the fumes have dissipated. Also, bleach **must** be thoroughly rinsed from all surfaces your rabbit will come in contact with.

Iodine-based cleaners – are popular for use in rabbitries. Dilutions of Iodine can be used for other purposes including wound cleaning and other antiseptic uses. Personally, I am allergic to iodine so I cannot use these products, but I know a lot of other rabbit owners who do.

Vinegar – many people use vinegar to clean cage floor wire and drop pans with as this will help remove deposits from urine. Again, this must be rinsed from surfaces.

Sunlight – *although natural sunlight is not a 'cleaning product' – many take advantage of the sun's natural sterilizing properties by 'sunning' items that have been washed. You can set cleaned nest boxes, cages, just about anything out in strong sunlight for a day or so and the natural light will kill many germs and dry the objects thoroughly! Don't put your rabbit in the direct sunlight though!*

Handy Cleaning Tools

Wire Brush – the same type of wooden handled-wire bristled brush painters use to prep surfaces for painting. This tool works well for cleaning dirt and debris off of wire cage flooring

Wisk broom – either plastic or straw bristles. Wisk brooms work well for removing hair and hay from cage wire

Vegetable brush – many styles available. We use these to clean water dishes and food bowls

Dustpan – we like the heavy plastic ones. We use these to clean out rabbit drop pans

Spray bottle – for diluted cleaning solution – **LABELLED With Name of Solution!**

Cleaning Routine

If you only own one or up to 5 rabbits, regular cleaning will be a relatively easy task to stay on top of. If you are a hobby breeder and have a larger or growing herd, your task will be more intensive, but basically you are cleaning the same items whether you have one rabbit or 50! Below is a list of things that need to be cleaned and kept clean on a regular basis:

Cages

Wire floors should be wire-brushed daily to remove hair, hanging poop, and urine crystals or deposits. Attention to all wire cages surfaces should be done periodically to remove accumulated hair, old hay and debris. During hot weather, we clean our rabbit drop pans quite often, every few days, just to keep the odor and moisture levels down. During cold weather, we clean pans about every 5 or 6 days – our goal is to NOT smell urine and odors when we walk into our rabbitry! Most rabbitries use a pressure spray washer to periodically clean their rabbit cages – couple this with allowing the cages to dry in the sun and you've got an effective method for thorough cage cleaning.

Feeders

All feeders should be cleaned every few days and more often if dirty

Water bowls and bottles

Clean water is a must – we empty water bowls nightly and refill with fresh water. We clean and disinfect feed and water bowls weekly, sometimes more often during hot weather.

Toys

All washable toys are cleaned, soaked in bleach-water, rinsed and dried, every week

Breeding For Beginners

Breeding Rabbits

The decision to breed rabbits should not be taken lightly. If you've purchased a "pet rabbit", most likely your rabbit has traits or characteristics that an experienced breeder determined should **not** be passed on to future generations-that's why the rabbit was sold as a pet.

If you've bought rabbits to get into rabbit breeding – welcome to our wonderful hobby! Rabbit breeders are a strong world-wide community of persons who breed for fancy (show rabbits), for hobby, or for meat or for other commercial use.

As a new rabbit breeder, we suggest you join the **American Rabbit Breeders Association** (ARBA). This is the parent organization of rabbit breeders throughout North America, extending throughout the world. The American Rabbit Breeders Association oversees all sanctioned rabbit shows and clubs, breed development and improvement and commercial rabbit uses. For a modest membership fee, you will receive a most helpful book titled Raising Better Rabbits & Cavies, plus receive the bi-monthly magazine Domestic Rabbit, brimming with interesting articles on breed history, judging and judges, rabbit care, club updates and more! The ARBA offers accurate direction for all rabbit enthusiasts! A blank enrollment form is attached on the back of this packet, if it is not, you may find one at the American Rabbit Breeders Association website: <http://www.arba.net/>

As a new, inexperienced breeder with new rabbits, we always suggest you first take some time to learn as much about your breed and your rabbits, *before* you begin breeding them. This bit of knowledge will help you decide which of your rabbits you should breed together to get the desired results, and will help you choose the quality rabbits out of your litters.

Preparing for breeding

Your first concern should be cage space – do you have enough cage space to accommodate the anticipated litter? Some breeds can have as many as 10-12 young in a litter, and each will need a separate cage by the time it is 3-4 months old! Weather conditions are important to consider if your rabbits are housed outside your home; Spring seems to be the optimal breeding season, summer heat can kill litters, and winter cold can freeze babies, fall can be a difficult time to produce litters which could be the result of temporary sterility in the buck (due to extreme heat spells during summer).

You will need a clean **nest box** for your doe. Metal nest boxes with the corrugated board removable flooring are popular and readily available but we prefer all wood nest boxes for our does. Wood is definitely warmer and preferred during colder weather. Your nest box should be just large enough for your doe to turn around in it. Some have a 'hood' over part of the box, designed as both a 'resting board' for mom, and to protect the babies from mom jumping directly on top of them. You will need nesting material too – we like to use plain, clean grass hay. Some use straw, some use wood shavings.

Choosing your breeding pair. Ideally, the beginner should start with healthy rabbits from the same breeder, or with similar backgrounds. Your results will be much more predictable if you breed rabbits together who have similar backgrounds. Your doe should be old enough to breed – for the smaller breeds this means at least 6 months old, and for the large breeds, such as French Lops, at least 8 months old. Your buck should be an adult and both rabbits should be in excellent health.

Genetic considerations

There are many resources for learning about rabbit genetics and color genetics. Genetics is a very extensive subject and even basic color genetic information would take up too much room in this booklet so I will list just a few pointers to get you started.

- **Don't breed two broken rabbits together** – this may result in 'charlie-marked' rabbits that are mostly white with only a little color. Many charlie-marked rabbits are not showable, and there is some evidence that some Charlie-marked rabbits may have an intestinal-nerve anomaly.
- Many breeds now come in a variety of **newer colors** that are attractive to the new breeder. Oftentimes though, new coloration is accompanied by poor body type until the color has been developed over many generations. It is recommended that the new breeder begin with rabbits of 'standard' or common colors, with excellent body types. Work on first reproducing excellent body types in your herd before you add new colors, otherwise you may suffer great disappointment and your barn full of beautifully-colored rabbits that are the first ones off the show table due to their poor type!
- Stay away from using rabbits that have **disqualifications** that could be genetic in nature such as; malocclusion, hooked spine, white spots in colored fur, mismatched or wrongly-colored toenails, eye spots, splay leg, split penis, and more.
- **Do not cross-breed!** Breeding different breeds together can introduce some weird genetics into a breed, that may pop up generations later, causing frustration for an unsuspecting breeder who then has to try to 'breed out' a problem. The American Rabbit Breeders Association overseas all breed development and improvement – contact them if you are interested in changing or developing a rabbit or cavy breed.
- **Dwarf gene;** when you cross two true-dwarf rabbits, most likely some of the litter will be born with a double dwarf gene, which is a lethal gene combination. The kits, commonly called 'peanuts', will appear smaller than their littermates, usually with misshapen heads and underdeveloped hindquarters, and usually will not live longer than 3 weeks, but more commonly just a few days. No matter what you do, these kits are destined to die, and will die, whether or not you intervene. It is best to leave them be and allow nature to take its course – quickly removing the kits from the nest box as they die. To produce true dwarfs, you cannot avoid litters with 'peanuts'. Some breeders use the larger "brood does" (who do not carry the true dwarf gene) and breed these to dwarf bucks to minimizing the production of peanut

babies. If you are raising a dwarf breed, don't breed two non-dwarf rabbits together or you won't get *any* true dwarfs out of your litter!

The Doe

Female rabbits are 'induced ovulators' meaning they do not have regular 'heat' cycles typical in many other mammals. *After* the male mates with a female, her body releases eggs to be fertilized. The female rabbit can show many signs to indicate her receptiveness to breeding; general 'grumpiness', digging in a corner, spraying urine, aggressiveness, tail held high especially when she is stroked on her back, and some breeders also check the vent area – a doe receptive to breeding will usually have a dark red or purplish vulva area.

Choosing a breeding date. Rabbits usually carry their litters for an average of 29 to 33 days, some a little longer. We find that most our does go between 30 and 31 days before they deliver. You should look on your calendar and estimate the chosen delivery date to make sure it is a good time to expect a litter. Sometimes we've bred does without paying attention to the estimated delivery date, only to find out later that the due date is going to fall on a day we are going to be out of town! Don't make this same mistake – plan your breeding so the doe will deliver when it is convenient for you! We like to have does due during midweek – so we have access to veterinary care if it is needed, but you can choose any date that works for you. Another important tip is to make sure you have an accurate way to keep track of breeding and when your does are due – we use a calendar, kept right in our rabbitry, to immediately record breedings and due dates, plus we record all this same info on our rabbit-breeding software program.

Mating

This is usually a pretty simple process – take your doe and put her into your buck's cage. *Never put the buck into your does' cage* – does are territorial and can really injure a buck just thrust into 'her territory'! **Breeding usually only takes a few minutes so stick around and watch to make sure the mating actually takes place and that neither rabbit fights or gets injured. Never leave the breeding pair alone – she can maim or kill your buck!**

Usually, he will chase her around and eventually mount her. After they mate, the buck will usually fall off her and grunt or make a strange noise. If the doe tolerates him, you can allow them to breed a few times before putting the doe back in her cage. Some breeders like to rebreed the same pair 2 to 8 hours later in the hopes of increasing the conception rate. While mating your buck and doe – watch carefully to make sure the doe does not hurt him – does can really get mean if they do not want to be bred! If your doe refuses the buck, you can try again later or the next day, and keep trying until they mate.

What next? Now, you are just waiting....do not overfeed your doe – she should not need extra nutrition if already fed a balanced diet.. Occasionally run your hand over her to make sure she is not losing weight though and slowly adjust feed intake according to her condition, with no dramatic changes! Some does go 'off feed' towards the last day or so before they deliver. This is nothing to be alarmed about unless she goes off feed earlier than just a day or two – you may need to force feed her if she goes off feed too early – consult with another breeder or your vet.

Nestbox

On the 28th day of her pregnancy, put the nestbox in her cage. Make sure you stuff it full of hay, straw or bedding, and also provide some hay or straw in the doe's cage so she can make a nest with it. Do not set the nestbox in a corner your doe normally uses for her litter area – or she may use the box for a potty! Some does will get to work making a nest the minute you put the nest box in – others wait till right before they deliver. She will usually gather bedding material in her mouth and jump in the box to arrange it to her liking. Does should also 'pull fur' which means they line their nest with loose fur

pulled right off their bodies. Some girls will pull so much fur they leave many areas of their bodies bald! Again, some do this when they first get the nest box, and other wait until close to delivery time.

Kindling Day

Rabbit litters are usually born early in the morning, quickly, and without any intervention from us humans. Try to keep your rabbit's area calm and free of all visitors and other animals so as not to startle her unnecessarily. *In general*, she will have between 2 and 8 'kits' that are born blind and hairless. They should be inside the nest box and covered with fur from mom. If, after the birth process, you find newborns on the cage floor, pick them up and put them inside the nest box if they are alive. *If kits found on the wire are cold*, don't automatically think they are dead – immediately warm them by either holding them close to your skin (some people put them into their shirts, next to their body!), gently using a hair dryer (don't burn them!) or by running their bodies under warm water (don't get their heads wet!). If the kit is alive, it will begin wiggling and moving once warmed up. You can put the **completely warmed and dry** kit back into the nestbox with its littermates.

After the delivery process is done (leave her alone so she can do her job!) you can check the nest box by diverting your doe with a handful of tempting hay while you pull the nestbox out. Check to make sure the babies are in one group, not spread out, and remove any dead kits or debris/waste. Cover them up with mom's fur and put the nest box back in her cage. Then....leave them alone!

Birth Problems

Some of the dwarf breeds can experience problems delivering their young such as 'stuck' babies (your doe will appear to be straining for an extended period of time-even days), or the development of a super-large baby that is too large to pass through the birth canal. These cases usually require veterinary intervention. First-time mothers will sometimes scatter or trample their young or neglect to care for them, all of which will result in dead litters. Don't give up on her - oftentimes she will do just fine with subsequent litters.

No Babies! It can be difficult to tell if your doe is pregnant – most do not appear any larger than their unpregnant counterparts. You can try to 'palpate' to confirm pregnancy, but I can't tell you how to do this – you'll have to contact a breeder who palpates regularly to learn this. Sometimes it is just a waiting game – if your doe hasn't had a litter by the 35th day after mating, and she is acting entirely normal, you'll just have to assume she was never pregnant. Sometimes does reabsorb the fetuses, and some may miscarry without you even knowing it.

Some does go through a '**false pregnancy**' *usually around the 19th day* of the pregnancy, and may pull fur or act as if they are pregnant – but never have a litter. Continue waiting until the 35 or 36th just in case she has a litter. If not, go right ahead and rebreed her.

If you continue having difficulties getting a litter – look closely at your doe's health – she must be in excellent health, not overweight (sometimes does who have once been overweight will not conceive even if they lose the extra weight, simply because they have already built-up too much internal fat around their reproductive organs preventing conception), no vent discharge or have any other health issues. Sometimes, failure of the doe to conceive can be blamed on the buck who has just come out of a hot summer (many, many sources say that bucks subject to high temperatures, *reportedly 85 degrees and over*, can suffer temporary sterility, which can last for several months). If you can find nothing wrong – keep trying to breed your doe. You may wish to 'borrow' or try using someone else's younger or proven buck on your hard-to-breed doe.

Newborn kits

Mom only feeds the kits one or two times within a 24-hr period so do not be alarmed if it appears she is not taking care of them. Once a day you can check on the babies – just-fed youngsters will have

swollen fat stomachs. Every few days, clean the nestbox out and replace bedding with fresh, reusing any clean fur. Within a few days, a light coat of fur will begin growing on each kit and you'll be able to determine most colors at this stage. At about 10 days, the kit's eyes should begin to open. If not opened by the 12th or 13th day, you can *very gently loosen* any dried mucus on the eyes, with warm saline solution and very gently open the eye a bit – some like to treat these late openers with a small dab of an antibiotic eye ointment.

Weather is always a concern – until the kits have a full body of fur, they are very susceptible to chills and cold weather – during cold weather, make sure **all** the kits are in the same 'pile' in the nestbox and well covered with fur (pull more from mom if you need to). On the other hand, hot and humid weather can kill a litter just as quickly – during hot weather, make sure the kits are **not** over-protected by a thick layer of mom's fur-remove fur if necessary!

New Mom. For the first week after birth, offer the new mom plenty of hay and fresh water, but do not drastically increase her pellet ration beyond what she is used to eating. Towards the end of the first week, you can begin to slowly increase her feed every few days, and continue this during the next week. Again, increase feed slowly or you can cause a digestive or milk toxemia problem. Take her out to inspect her periodically to make sure her vent area is clean, her nipples are not caked or swollen, and she is in decent condition.

Nestbox Management. It is important to keep the nestbox litter clean! Within a day of the birth, remove all the kits, saving the clean fur, and remove all the dirty bedding. Then fill with fresh clean bedding and reposition the kits within the clean fur. Every day check the nestbox for any dead kits, and soiled bedding – replacing wet or dirty bedding with new. Failure to keep the nestbox clean may result in nestbox eye infections in the young kits.

Growing Kits. Right around the time the kits are 10 days to 2 weeks old, they may start hopping out of the nest box and into the cage. If it is cold, we pop them back in the nestbox and hope they will stay there for another day or so. Once they all start getting out and staying out – you can remove the nest box. We like to make this transition by putting a pile of hay in a corner, so they all have a 'nesting' area. This usually works well for a day or two until they scatter it all over!

After the kits are finished with the nestbox, be sure to empty it of bedding and thoroughly scrub it clean then sanitize with bleach/water. Thoroughly rinse the nestbox and allow to dry (in the sun if possible) before you put it away for storage.

Safety. Hopefully you have either urine guards or 'baby-saver wire' along the cage edges to prevent the youngsters from falling through the cage wire! If you are ever missing a kit, don't assume the mom ate or disposed of it- look for it everywhere, even on the floor, under other cages and even inside other cages – you'd be surprised how far a young kit can go. When the kits first start hopping out of the nest box, we raise the water cups higher up on the cage side so wandering kits can't readily fall in and drown- usually within a few days or a week, the water cup can be returned to its original position.

Solid Food for the kits. Soon after they leave the nest box, the kits usually begin to nibble on mom's pellets. We also make sure there is **plenty of grass hay**, day and night. We don't feed anything extra, nor supplement the pellets with any other treats or foodstuffs other than our normal pinch of oatmeal. We have yet to have a problem with weanling enteritis!

Weaning

Kits are commonly weaned anywhere from between 4 weeks old and 8 weeks old. We opt for the later date, and usually the mom will 'tell us' when it is time for the kits to go, as she may begin chasing them or 'picking on' them somewhat. We do a slow weaning process which seems to be well tolerated by both the kits and mom – we remove the largest two kits and put them into one cage together (with lots

of hay!), a day or so later we remove the next two largest kits and put them into a cage together, and so on...until we are down to the last kit, who is usually the runt and the last to be weaned.

Each time we take weanlings away from mom, we reduce her feed a little, until she is down to her normal ration by the time the last kit leaves the cage.

Feeding the weanling. I cannot stress enough how important it is to provide an abundance of grass hay, daily, for weanlings! Hay keeps their immature digestive system working properly! Feed a small amount of pellets with a low protein content (= or >16%) and gradually increase the amount of pellets over the course of several weeks until the rabbits are up to the prescribed ration for their breed/size. Take care to watch for any health or digestive problems. Remove any soiled or matted fur from the youngster's vent area and keep their cages clean. Of course, fresh water is very important also!

The growing rabbit. Usually you will have to separate weanlings by the time they are 3 months old or they will begin to scuffle with each other or even chew on each other's fur. At this time, we usually recheck their sexes, check their teeth and tattoo their ear numbers in. We feed almost all young rabbits a measured amount of feed so they do not eat too much or put on too much weight too fast. We continue offering a lot of hay and of course fresh clean water.

Making Pedigrees for rabbits you produce

You will need to make pedigrees for all rabbits you produce in your rabbitry. Record keeping is very important and many breeders use computerized rabbitry programs to assist them with this task. If you don't have access to a computer or wish not to, you can simply make your own pedigrees, or purchase a pack of fill-in pedigrees from any rabbit supply vendor. I have more info on my website about rabbitry software and pedigrees.

The pedigree is very important to future generations and must be **accurate and readable**. You will copy the pedigree information from the sire and dam of your litter onto your own pedigree form, and also provide the correct information for the animal you produced and are making the pedigree for; the exact birthdate, accurate color (if you don't know what color the rabbit is – don't guess – show the rabbit to experienced breeders or judges to find out the correct color to list!), of course the rabbit's name (whatever name you choose along with *your own* rabbitry prefix if you desire), sex, ear tattoo and any other information required or desired.

Most breeders keep their pedigrees inside a sturdy binder, encasing each pedigree inside a plastic sleeve for protection. We keep a copy of our pedigrees in each of our 'breed' binders, plus we have the originals stored on our computer.

Choosing rabbits to keep

At some point, your litter will be old enough for you to decide which ones you will want to keep and which ones you will 'cull'. The term 'cull' is usually misunderstood to mean 'kill', but to us, the term means 'remove from your herd', most often by way of sales.

Choosing rabbits to keep out of a litter can be a daunting experience for the beginner – many breeds go through funny developmental stages during which they look like the worst specimens imaginable! It helps if you can have an experienced breeder assist you for the first few litters you produce – they can usually point out the qualities to look for in the breed, and at what age they are apparent. The rabbits you choose to keep should be the ones that best represent their breed, and those who have significant qualities that you want to keep in your herd.

Culling Rabbits

Show and breeding-quality rabbits can be sold to other breeders, 4-H and FFA youth and others interested in showing and breeding rabbits. Rabbits you market as 'show-quality' should be able to be shown – and not have any disqualifications. Rabbits you market as breeding-type rabbits may have

faults and even disqualifications that prevent them from being shown – but are rabbits you have determined may be useful to someone else’s breeding program. Be sure to point out faults and disqualifications to all interested parties – so they know what they are buying! Word-of-mouth and For Sale flyers at rabbit shows, personal internet websites and message boards/newsgroups are the usual means of advertising sale rabbits to other breeders.

Pets – many breeders sell some of their stock as pet rabbits directly to the public. The pet rabbit should have an agreeable, pleasant personality, and should be gentle enough for the pet owner to handle. Keep in mind that in many states, it is illegal to sell baby rabbits that are under 8 weeks of age-KNOW THE LAW in your own state! Personal websites, newspaper ads and flyers are common advertising methods to sell pet rabbits.

Pet Stores – some sell their pet-quality rabbits to pet stores. Caution is advised when looking for a pet store to sell to – make sure they take care of their sale rabbits properly and that the salespeople are well-informed about rabbit care.

Meat processing – yes, rabbits can be sold for meat for human consumption. Markets for rabbit meat fluctuate widely in different areas of the country. For more information, contact the American Rabbit Breeder’s Association (<http://www.arba.net/>) or the Professional Rabbit Meat Association (<http://www.prma.org/>)

Food source for animals – some people sell their culls to those who raise or rehabilitate raptors, snakes and other wildlife, as a food source for these animals. *If you choose to do this* – I can only hope you will **make sure** your rabbits are humanely euthanized **before** they are used to feed animals. I am **totally against** using live rabbits for a food source. I am not sure who to contact for more information on selling your rabbits as animal food.

Laboratory and Medical research – I believe it is rare to find a lab or medical research facility that will accept rabbits from an outside source anymore – most require specially-bred rabbits from germ-free environments or strains.

Tattooing Using a Clamp Tattoo

If you intend to use your rabbits for breeding or show, they must be tattooed for identification – you do not need to tattoo rabbits you intend to sell as pets. There are two ways to tattoo rabbits; using a traditional clamp-style tattooer and using a tattooing pen. I am intending to buy a pen tattooer but as of the date I published this booklet, I still haven’t, so I’ll keep the conversation based on the clamp-tattoo method.

We have always used the clamp tattoo method and find it quick, effective and fairly easy to do. We usually tattoo our young rabbits shortly after they are weaned, and after they’ve become accustomed to their new cages. You will need the following supplies:

Clamp tattoo instrument

Assortment of tattoo letters/numbers made for your particular tattooer model

Tattoo ink recommended for your tattooer – we use black

Heavy towel

Several Q-tip swabs-or-small brush/toothbrush-or-special ink brush; all used to rub ink into the tattoo

Alcohol prep wipes or rubbing alcohol and clean cotton gauze or pads

Flashlight

Paper towels or rags for wiping your hands or spills

A helper is great, especially if you’ve never tattooed before!

How To Tattoo Your Rabbit:

- 1) First get your tattooer ready – put your desired numbers into the clamp and tighten it if you want (some people do not tighten the digits in the tattooer) – **BE SURE TO TEST** your tattooer on a piece of paper to ensure the digits are in the tattooer correctly!
- 2) Take some rubbing alcohol or alcohol prep wipes and wipe out the inside of your rabbit's LEFT ear, drying afterwards with the cotton pads or gauze. This is not necessary if you are tattooing a very young rabbit – but the older bunnies' ears usually have oily skin which keeps the tattoo ink from absorbing well.
- 3) We like to wrap our bunnies up in a towel, sort of like a bunny burrito. Set your rabbit on the towel. Near the rabbit's head – pull the sides of the towel up tightly around his neck and hold – now don't choke your rabbit, he needs to breathe! Then wrap up each side tightly-bringing each side up and over bunny and tucking it underneath on the other side, then wrap the back end tightly, bringing the towel end tightly under the rabbit. The end result is a rabbit wrapped in a towel with only his head sticking out-this should prevent your rabbit from moving at all. Have your helper hold the rabbit/towel still while you continue.
- 4) Place the rabbit so his left side is closest to you, with his head nearest your left hand and his tail nearest your right hand – the helper should be on your right and 'leaning over' to hold bunny. Lift his **left** ear up (or if yours is not a lop rabbit, simply grasp the left ear and open if folded) and look inside to find a good area to tattoo – you want to avoid any hairy areas and blood vessels (you can shine the flashlight through the other side of the ear to see the blood vessels better if needed).
- 5) Position the tattooer on the inside of the left ear in the spot you want. If you position the tattooer so the handles are facing towards the rear of the animal (not from the top or front of the rabbit) this should place the tattoo correctly (so your tattoo isn't upside down in the ear!)
- 6) Let your helper know you are ready so they can place a hand over the rabbit's face and firmly over the body to steady him, then when you are confident on tattoo placement, **SQUEEZE HARD**. Do it right the first time – *squeeze hard* – otherwise the tattoo will not turn out and you'll have to redo it later!
- 7) **Release the clamp quickly** – sometimes the digits will stick in the ear and you'll have to carefully 'peel' them out. Have your helper *slightly* loosen their grip on the rabbit now.
- 8) Check the tattoo holes in the ear – you should be able to clearly see the whole tattoo. If you mucked it up, just stop now and put the rabbit back – after the ear heals you can re-tattoo, a few weeks later.
- 9) If the ear is bleeding, clamp your fingers over the bleeding spot and gently squeeze for a few minutes. If the ear continues to bleed or is bleeding a lot, you've hit a bigger blood vessel and should not try to ink the ear – get the bleeding to stop and let the ear heal so you can tattoo later on in a few weeks.
- 10) If the tattoo looks right and is not bleeding, begin to rub the ink into the tattoo holes – use whatever you chose for this – q-tips, soft toothbrush, your fingers, etc. Rub firmly to work the ink into each hole.
- 11) Do not wipe the excess ink out – *just leave it all alone* once you've rubbed it in well. Don't cover the wound or put any ointment on it – just put the rabbit back in his cage and of course give him a small treat.... Check on the rabbit a little later, especially if the ear was bleeding.
- 12) Over the course of the next few weeks, the ear will heal, the rabbit will clean out the excess ink or it will wear off and you should end up with a good readable tattoo.

Most of our rabbits have just a mild reaction to tattooing – we can feel them try to jump or squirm while in the towel, and some will let out a 'grunt'. So far, we've never had a rabbit break it's back from tattooing –probably because we use a towel to wrap them tightly in.

The pen tattooers are becoming quite popular – these are small, portable, battery or electric tattoo pens used to hand write tattoos in ears. You can buy these at any of the rabbit supply stores and are usually in the \$50 - \$200 range depending upon the style. I've watched others use the tattoo pens and if your penmanship is good, you'll get a nice tattoo which is instantly usable.

Tattooing is never fun but is necessary for proper ID of the rabbit, for showing, breeding, pedigrees and for just plain identification! You'd be surprised how difficult it can be to tell your rabbit apart from several others on the show table!

If you are not comfortable tattooing, contact us for help, or you can usually find a breeder at a rabbit show willing to help you too. Sometimes the registrars at shows will tattoo your rabbit for a small fee – ask the show secretary ahead of time for more info.

Moving Forward in the Rabbit Hobby

Many new breeders are anxious to exhibit the rabbits produced in their rabbitry – competing against others is often a good indicator of the success of your breeding program, and can help identify what needs improvement in your stock.

Showing at County Fairs

This is a popular place for the youth exhibitor to start out! Any member of most youth clubs, such as 4-h and FFA, can enter their rabbits in their local county fairs. The number of rabbits you can enter in a fair is usually limited to a set number. Most fairs require that your rabbits remain cooped on the fairgrounds for the duration of the fair, which means you must attend daily to care for your rabbits. Competition is usually held during one day of the fair and most fairs use a 'danish judging system' which means there can be several winners in each ribbon category, and all exhibitors are rewarded for their efforts! Exhibiting in local fairs is great fun for the whole family and an excellent foundation for the beginning rabbit hobbyist.

Showing at ARBA-sanctioned shows

ARBA-sanctioned rabbit shows offer more competition for the rabbit enthusiast! Although you do not need to be a member of The American Rabbit Breeders Association to show your rabbits, we highly recommend you join. Thru the ARBA website or through your state's rabbit breeders association club, you can find a list of upcoming shows in your area – you are not limited to shows just in your state, many travel to other neighboring states just to attend rabbit shows! When you find a show you'd like to attend, contact the show secretary and ask to have a show catalog or flyer mailed to you. The show catalog will list important information about the show; the dates it will be held and the location, how much each class will cost, and what breeds are 'sanctioned' for the show.

You can show as many purebred rabbits as you own if you want – there are no restrictions on how many you can enter, and your rabbits do not have to be registered or even have a pedigree, but they all must be tattooed in the left ear, healthy and should nicely represent the breed.

Most rabbit shows are 'day-of-entry' shows where you simply come to the show and enter your rabbits when you arrive, but some require 'pre-entry' where you mail your entry forms in before the show date. Most show catalogs include a show entry form. You can visit our website (<http://www.lopsandcavies.com>) for detailed articles on Showing your Rabbit, show forms, checklists to help you prepare for a rabbit show, plus other showing articles to help you get started.

You can exhibit as many rabbits as you'd like at an ARBA-sanctioned show. Most often, you will bring your rabbits in individual 'carriers' in which they will remain during the show day, so bring food and water for your rabbits also. When your class is called, you bring your rabbit up to the show table and place it in a showing 'coop' or box and watch while the rabbit judge inspects each rabbit then places the class.

Of course, showing is a lot more involved than what I've described here, but again, you can learn more from reading our show articles at <http://www.lopsandcavies.com>

Joining Rabbit Clubs

To enjoy this hobby to its fullest extent and to show your support for the rabbit breeding community, you should join rabbit clubs and maintain your membership in each! Below is a general list of club types we recommend you join – and you can find out more about each club through The American Rabbit Breeders Association website:

- **The American Rabbit Breeders Association** (<http://www.arba.net>). This is the parent organization for all rabbit clubs. We highly recommend you join this club.
- **State Rabbit Breeders Association.** Through the ARBA website, you can find information on your state's rabbit breeders club. Through your state club, you will be able to meet other rabbit breeders in your state and participate in that state's points sweepstakes. The state clubs are a lot of fun to be a part of – most have a yearly banquet and a big state convention rabbit show.
- **National Breed Clubs.** Each breed recognized by ARBA has its own nation-wide club. Through your breed club, you will meet other hobbyists who raise the same breed as you, plus be able to participate in the breed club's points sweepstakes and national breed convention show. You can find information on each breed club at the ARBA website.
- **Local Rabbit Clubs.** There are local rabbit clubs all over each state – again, you can find clubs through the ARBA website, or through your state rabbit breeders website too. Rabbit shows are usually put on by these local clubs and your support and membership is always needed, not to mention helping put on a rabbit show is a fun way to get to know other breeders!
- **Join 4-H** 4-H is a great start for any rabbit enthusiast, whether you are a youth or an adult – youth members can learn about their rabbits and exhibit in local fairs, plus a lot more, and adults are always needed as role models in the capacities of project leaders, club leaders and fair helpers! Contact your state's University Extension office for more information on local 4-H clubs in your area!

So concludes our booklet on rabbit care for the new rabbit breeder. We appreciate your business and sincerely hope you will enjoy your new rabbit and hobby!

Feel free to contact us with any questions. Below is our current contact information you should keep for your records:

Website: <http://www.lopsandcavies.com>

Email: cathy@lopsandcavies.com

Other:

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Rabbit Owners and Potential Rabbit Owners: You may print and use this booklet for free as long as you use this information only for your own personal rabbit care reference – otherwise please do not reproduce, distribute or put on your website any part of this booklet without my direct permission. My email address is above should you have any questions-and I check my email often!

Fellow rabbit breeders: If you'd like to hand out this booklet to your own customers as an educational tool, go ahead and use it. I do ask that you *not* change or erase any information though –

there is a place to write in your own feed notes, plus you can add your own contact information above. *You can always attach a sheet with your own recommendations and advice if any differs from what I've written!*

4-H and FFA Youth and Leaders: may print and use this booklet as reference for their personal rabbit projects, care and education.

Cathy LaReau is not a Veterinarian, has no veterinarian training, therefore, any health and care related advice given is to be used at your own risk.

Information in this booklet is derived from our own personal experience raising and breeding rabbits, common knowledge about rabbit care, plus from the references listed below:

References:

The American Rabbit Breeders Association, website <http://www.arba.net>

Raising Better Rabbits And Cavies, published by The American Rabbit Breeders Association

How To Feed the Rabbit Gastrointestinal Tract; <http://www.asas.org/jas/jas0942.pdf> Colorado State University, Dept. of Animal Sciences

Island Gems Rabbit First Aid Articles; <http://www.islandgems.net/medical.html> Island Gems

Breeding Your Rabbits; <http://www.islandgems.net/breeding.html> Island Gems

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