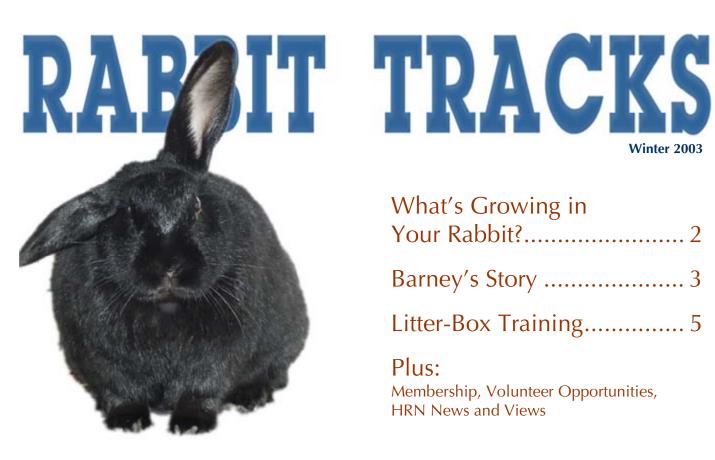




Dedicated to educating the public and to fostering and adoption of companion rabbits. 781-431-1211 or www.rabbitnetwork.org.



Winter 2003

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Plus:

Membership, Volunteer Opportunities, HRN News and Views

What's Growing in Your Rabbit?

Treating Bacterial Infections

By Astrid Kruse. Your bunny has a runny nose or a painful swollen abscess. When you return from the vet with antibiotics and instructions to medicate your sulking rabbit, be sure that you have the correct medicine and are using it as directed. Antibiotics are invaluable in helping a body heal, but the wrong drug can harm by delaying proper treatment or causing illness.

An infection in rabbits is often treated empirically, meaning that an educated guess is made about which antibiotic will most likely be effective. This saves money only if the educated guess is correct. Ideally, every infection would be cultured, meaning that a sterile swab is taken, inserted into the infected area and sent out to a lab. At the lab, the swab is wiped across a bacterial growth medium and the type of bacteria that is growing is identified. Little paper discs, impregnated with different antibiotics, are dropped on the bacterial lawn. Those discs that kill the bacteria near them are hoped to have the same effect in the body as in the lab dish. The culture and sensitivity report will state the bacteria grown from the sample and list that they antibiotics sensitive or resistant to.

Using the wrong antibiotic to treat an infection wastes valuable time and money. If bacteria are not sensitive to an antibiotic at the dose used. the bacteria will continue to grow and cause illness, or hide in the body to cause later infection. Indiscriminate use of an antibiotic also causes bacterial resistance because the surviving bacteria have had the chance to develop strategies to combat the drug. For instance, antibiotics given for viral illness will never affect the virus and will only lead to surviving resident bacteria evading the drug next time. You can prevent resistance by using antibiotics only at the recommended dose for the required amount of time—no skipping/reducing doses or leftover drug!

Because of the sensitive gastrointestinal tract of rabbits, a limited number of antibiotics are safe to use for this species. A first-line drug is trimethoprim sulfa (Tribrissen), which interferes with bacterial folate metabolism. It is very inexpensive and very effective if the bacteria are sensitive to it. Another commonly used drug is enrofloxacin (Baytril), a fluoroquinolone type drug that prevents bacterial DNA from coiling correctly. However, Baytril is expensive and overused to the point that more bacteria are becoming resistant to it. Chloramphenicol or the sister compound florfenicol (NuFlor, ironically licensed only for non-lactating dairy cattle) are also very effective antibiotics



that work on bacterial ribosomes. Antibiotics to avoid for rabbits include penicillin, cephalosporins, and clindamycin. These antibiotics will usually kill the bacteria causing infection, but will also destroy the gut flora of the rabbit and result in an often fatal colitis.

We live in a sea of bacteria. Most are harmless, some only cause illness in those whose immune systems aren't functioning well, and a few others will cause disease if we are exposed to them in large enough doses. **Antibiotics** help kill the bacteria that the body's immune system is not able to control and eliminate. Please help your vet use these invaluable drugs wisely.

I am only one, but still I am one; I cannot do everything; but still I can do something; And because I cannot do everything, I will not refuse to do the something that I can do —Edward Everett Hale

Barney's Story Living With Paralysis

By Christine Bennett. If I told you that the highlight of my day is taking care of my paralyzed rabbit, you might think I'm off my rocker. But after a long day, coming home to a rabbit who is glad to see me always makes me happy. I'm talking about my buck, Barney—and I can't overlook his loving doe, Hazel. Barney and Hazel came to us in November 1998—two big, mature, 12pound rabbits. Not long thereafter, Hazel was diagnosed with Pasteurella and has since been on medicine to manage illness. Barney was geriatric, but otherwise in good health. In early 2002, blood testing revealed that Barney had disease, or hepatic encephalopathy (HE), where the liver loses the ability to filter out ammonia in the blood. Toxin build-up in the blood can lead to seizures potentially and "odd behaviors." Barney began to manifest symptoms of HE as well as progressive geriatric arthritis. His hopping became slower, and his stance wobbly.

In April 2002, Barney had a massive seizure that would have taken a horse down, but not Barney. He lost most of his leg functioning then. We kept him comfortable by creating a safe, soft, warm environment on the laundry floor. Then again in October

Barney experienced 2002, another major seizure. I was convinced it was his time, but Barney proved me wrong yet again. At that point, we started him on Lactulose three times a day to help manage the ammonia build-up in his blood. This dramatically decreased his seizures and their severity. It is now February 2003, and Barney is still being our bossy old coot. I want to share how we take care of Barney and Hazel to facilitate their quality of life.

Housing

Barney and Hazel have alwavs been free-ranging rabbits; they lounge and sleep wherever they want in the laundry room. When became apparent that Barney was getting into trouble (even in a rabbit-proofed room) because he couldn't control his movement, we constructed a cloth-walled area to contain him. Measuring approximately 3-feet x 3-feet, the pen has three-inch-high sides rolled-up mattress covers (or other cotton fabric) tied with cotton shoelaces or string. Clothespins clip the side bolsters together. I wanted to be sure that Barney would stay warm, protected from cool floor draughts. Barney is able to move freely within this space while maintaining his safety; Hazel comes and goes freely, hopping over the sides.

Because Barney has lost buffering body fat, I lined the bottom of the pen with strips of bubble wrap. This creates an "air mattress" layer that is

also waterproof to protect the carpet. (The carpet is a cheapie from Home Depot, so it's no biggie if it does get wet.) On top of the bubble wrap I laid plastic placemats where his butt would normally be (you could also use a scrap of linoleum). Just be sure the rabbit can't chew anything plastic. The next layer is fabric bedding. I used a body-size bath towel, then a couple of hand towels. (I had a lot of junk towels available, but you can buy towels at a Salvation Army store or a yard sale, etc.) I change Barney's bedding often to keep him dry and clean.



Toileting and Cecal Pellets

When Barney first became unstable, he would still try to get over to his litterpan to urinate and defecate. I made him a cut-away sided litterpan in which I would lay him, but he was getting wet and frustrated, so we tried another option. Now I buy cheap diapers and cut away all the unneeded elastic parts, making square diaper pads, which I place on a plastic plate. I support Barney under his forelegs and in front of his rear legs, letting his legs dangle down. I position him as if he were standing, and

with light pressure to his bladder, encourage him to urinate. It didn't take long for Barney or us to learn this comfortable routine; most of the time Barney holds his urine until he is toileted. He still poops when he wants to while lying down, so I remove poops with a tissue. I keep his bedding clean, not only for sanitation issues, but also to "output"—to monitor his ensure that his poops look healthy, moist, and abundant.

Barney isn't limber As anymore, he needs help when he passes his cecal pellets (the glossy, smelly pellets). He cannot reach his butt to reingest these important, nutrient-rich pellets, so collect them with a tissue and offer them to him. If you told me that one day I'd be feeding cecal pellets to my paralyzed rabbit, I would have laughed. But when I come into Barney's room, and he looks up to me, raises his hind leg and looks expectant, it's just second nature to help such a fighter.

Positioning

Amazingly, Barney can still drag himself around his pen, which is good as he gets some exercise and alternate positioning. However, we tend to position him in a corner with pillow support under his head and a bolstering towel-roll under his now bony shoulders. There is another bolster behind his back for support and warmth. I lay old flannel PJs over his body, but Hazel is Barney's living blanket. She

drapes herself over his midsection, keeping him very warm and stable.



Food

Barney gets unlimited timothy hay, but now also gets unlimited chow and greens too. I offer him banana twice a day along with some raisins, but I don't overdo the sugars as this could upset his digestive system. I offer a bowl of roomtemperature water several times a day, but if he refuses to drink, I use a syringe to give him water. (He is used to a syringe from his Lactulose, so he doesn't fight.) It's very important to keep him hydrated and peeing often so he won't build up bladder sludge, which can be a problem for paralyzed rabbits. (Get subcutaneous fluids from your vet if your rabbit is dehydrated.) All Barney's food is placed within mouth's reach. Barney and Hazel often look like decadent Romans at a banquet.

Grooming

I took Barney to the vet to have his hindquarters shaved when he was first paralyzed, as he had become caked with soil. They also cleaned out his ear wax, as he can no longer use his hind feet to do it himself. I now trim his toenails alone. I clean his fur daily so soil won't build up. I use a warm, damp washcloth to soften soil and my fingers and tissues to remove any matter from his skin and fur. **Do not** use scissors for this.

The Home Team

For any living creature battling a disease, moral support cannot be understated or underestimated in its benefit. We are always loving and gentle with Barney and Hazel; we don't get mad at them if the pen gets trashed or he needs grooming hour-long session. We've made the commitment to ensure their quality of life, so we keep our senses of humor about it all. In return we have a pair of rabbits with whom we've developed a very deep and special bond. Barney was always rather a recluse and shunned our physical contact. Now we snuggle him in his flannel bedding, giving him tooth purrs on the bridge of his nose—and he purrs back. You can see the contentment in his eves and demeanor. Hazel's Pasteurella has been stable for four years now.

We'd never wish disease or paralysis on any rabbit, but this has opened a door to a unique relationship with Barney and Hazel that would not have otherwise been possible. We support anyone who is also determined to live with the hand they're dealt. As you can see, Barney and Hazel have enjoyed another loving year together—and have let us become an integral part in it.

The Basics of Litterbox Training

By Kathy Smith. People who are unfamiliar with the concept of companion rabbits are often surprised to learn that rabbits can be trained to use a litter-box. Actually, this training is relatively easy. Altered adult rabbits usually choose a specific corner of their cage or other space to designate as their bathroom. Litter-box training is often as easy as simply placing the litter-box there.

Supplies

There are many options for both litter-boxes and litters available on the market today. What works well for one rabbit may be a disaster for a different rabbit. What works best for you will be a function of your rabbit's preferences and the options available in your area. Start simple and let your rabbit lead the way.

Litter-boxes come in a variety of sizes and shapes and with a variety of options to help address different training The standard problems. rectangular litter-box is a good starting point for most rabbits. The size you choose will be a function of the space available in your rabbit's cage, condo, or room and your rabbit's size. For small breeds, the medium box may be big enough. The large-size litter-box works best for rabbits from five to pounds. The extra-large or giant may be best for larger

breeds, although my French Lop, Thumper, does fine with the large litter-box. Smaller breeds may do better with a shallower litter-box that is easier for them to hop in and out of while larger breeds may do better with a deeper box. Rubbermaid dishpans can also be used as litterboxes and come in a variety of sizes.

For most rabbits, I recommend using a layer of newspaper between the litter-box and the litter itself. The exception would be for a rabbit who insists on shredding the soiled newspaper and tossing it outside the box! Newspaper is inexpensive both absorbent and can help reduce the amount of litter you need to use. If you don't subscribe to a newspaper, you probably have a friend or neighbor who would be happy to let you dispose of his papers! If you are willing to change the litter-box more frequently, you may be able to get by with newspaper alone with no need to purchase—and dispose of expensive and often heavy litters.

There are many rabbit-safe litter alternatives to choose from. You my not be able to find all options in all parts of the country. However, you should be able to find one that fits your budget, life-style, and physical limitations.



Some of the most popular options include:

- Paper Pulp or Recycled Newspaper Litters.
 - Paper-pulp products (e.g., CareFRESH®) and recycled newspaper litters (e.g., Yesterday's News®, Eco-*Fresh* $^{\text{TM}}$) are absorbent and control odor well. They are safe if ingested (in reasonable quantities).
- Compressed Sawdust Pellets. Wood stove pellets, available in many parts of the country for winter heating, make an economical. alternative to litters like Yesterday's News. Most brands are safe, but a few contain lighter fluid, so be sure to ask about this and read the label (avoid anything that says "fastlighting, " no matter what a store clerk tells you!). If wood stove pellets are not available where you live, Feline Pine litter is a similar product. Both are absorbent and control odor well.

- Pelleted Plant Fiber Litter.
 Cat Country[™] is a pelleted litter made primarily from plant fibers. It is absorbent and controls odor well.
- Aspen. Aspen litter comes in both a pelleted form (Aspen Supreme[™]) and a shaved wood product that looks similar to pine and cedar bedding but is safe for rabbits. These litters are absorbent and control odors well.
- Food Pellets. Some people use food pellets as litter. They control odor relatively well and are certainly safe for your rabbit to eat, though they may not be the best choice for an overweight rabbit. It is critical that wet pellets not be allowed to mold, since mold is extremely toxic to rabbits.
- Newspaper and/or Shredded Paper. Newspaper and/or shredded paper provides an economical alternative to purchased litters. They are absorbent but do little to control odor, so boxes need to be changed more frequently than with other litters. If you like the idea of shredded paper, you may be able to get an ample supply from your employer. If he has any concerns about the "security risk" of sending the shredded paper home with you, remind him that you will be adding security since no one is going to attempt reassemble it once your rabbits have used it!

For your rabbit's health and safety, please avoid the following types of litter:

- Clumping litters. If your rabbit nibbles this type of litter, it is likely to clump in his digestive tract, causing an obstruction, which can lead to death.
- Pine and cedar shavings.
 The fumes from pine and cedar shavings have been linked to both respiratory problems and liver damage in rabbits.
- CatWorks[®] litter. CatWorks[®] has been linked to zinc poisoning in rabbits.
- Corn cob Litter. Like clumping litter, if your rabbit nibbles on it, corn cob litter can cause a lethal blockage.
- Clay litters. Clay litters should be avoided unless you use a grated litter-box that prevents your rabbit from digging in the litter itself. Clay litters are extremely dusty, and the dust can cause respiratory problems. The deodorant crystals found in many clay litters are also toxic.

I highly recommend adding a generous handful of hay to your rabbit's litter-box. Hay in the litter-box encourages two good habits—using the litter-box and eating hay. If the litter-box is large enough, your rabbit uses only one corner for a bathroom, and you keep a supply of fresh, dry hay in the box, this may be the only place your rabbit wants to go to eat hay! If your rabbit insists on urinating on

the hay, see if you can find a way to hang a hay manger so it can be reached while he is in the litter-box.



Training

Rabbits adopted from shelter or rescue group are often already litter-box However, trained. expect them to need some amount of retraining their in surroundings. Even if your plan is to give your new companion full run of your house or apartment, it is best to start your rabbit out in a relatively small area. Too much freedom too quickly can be overwhelming and can lead to poor litter-box habits.

If your rabbit is already litterbox trained, start with the same type of litter-box and litter (unless it is dangerous) that he is used to - even if you plan to ultimately use something different. Place the litter-box in a corner of his cage, exercise area, or room. Rabbits have very definite opinions about how their living space should be arranged. If your chooses a different corner, it is much easier to move the litter-box than it is to change his mind about where it should be!

Some rabbits immediately begin using the litter-box

once it is placed where they want it. For others, training requires more work. In general, younger rabbits and unspayed females are more difficult to train. Here are some things to try if your rabbit insists on urinating outside the litter-box, even after you have placed it where he has chosen to go:

- Put the paper towel you used to clean up the urine in the litter-box to help communicate that this is where he should "go."
- If you have a multiple-rabbit household, a "slightly used" litter-box from a welltrained rabbit may encourage vour rabbit to use the box—rabbits like to urinate in the same place as another rabbit, as a way of claiming territory. If the rabbit you are training is going to be bonded with another, swapping litterboxes back and forth can help with both litter-box training and bonding! Caution: There is some risk of spreading e. cuniculi and coccidian through shared litter-boxes, so use this approach only if you feel confident that both rabbits are in good health.
- Increase the number of litter-boxes in your rabbit's space. You may need to start with as many as five or six to improve your rabbit's chances of using one of them. Most rabbits will eventually choose one or two to use, and you can gradually remove the extras.

• Spend time watching your rabbit play. If he heads to a corner without a litter-box and starts to raise his tail, clap your hands, say "no" and gently guide him to the nearest litter-box. Once he goes in the box, reward him with his favorite treat.

If you simply cannot get your rabbit to use a litter-box—or if



a trained rabbit suddenly stops using his box—schedule a trip to the vet to rule out physical problems: urinary tract infections and bladder sludge can both cause incontinence; arthritis and e. cuniculi can make it difficult or painful for your rabbit to get in and out of the litter-box. Appropriate medical treatment along with possible modifications to the litter-box itself (e.g., using a box with one low side for easy access) will often solve the litter-box training problem. If no health problems are found, ask yourself whether changes in your household might be upsetting your rabbit. Rabbits are creatures of habit, and if you are spending less time with him, have changed your daily routine, or have added another animal to your home, your rabbit may express his displeasure by refusing to use his litter-box. Try spending extra time reassuring him that he is still an important part of your family.

Once your rabbit becomes dependable about using the litter-box in a small area, you can gradually expand his play area. Usually he will return to his cage or room to use the litter-box. Sometimes he will choose a spot in his expanded area to use as a "second bathroom." If this happens, consider putting a litter-box there as well.

It is best if you can allow your rabbit to move freely between his cage or room and his expanded play area. However, this is not always practical. If you have to carry your rabbit to his play area or if you are moving your rabbit to a new living area he may initially be reluctant to use the litter-box, preferring to wait until he is back in his own space. When I brought Stormy home from the shelter, he worried me because he produced nothing for a couple of days. Finally, he chose a spot in my hallway rather than the litter-box in my bathroom. I was so thrilled to see normal bodily functions, I put an identical litter-box in the spot he had chosen. Because he spent the night and much of the day confined to the bathroom, he began using the litter-box in there as well. Gradually he became used to using it and in a few weeks we were able to remove the litter-box from the hallway.

As I mentioned earlier, rabbits seem to have definite

opinions about where their litter-box should be placed. While most prefer a corner of their area, this is not true for all. Dante would always move his litter-box to roughly the middle of his pen. Many rabbits who move the litterbox will proceed to urinate in the corner where it once was. In these cases you will want to find a way to anchor the litter-box in place, usually by clamping it to the side of the cage or pen. For rabbits whose area is a room, it may take some creativity to find a way to keep him from moving the litter-box. In Dante's case, it was not necessary to anchor the litter-box. He is excellent about using it—he just wants to exercise his right to move it to the middle of his area!

Multi-Warren Homes

If you have more than one group of rabbits in your home, you may see territorial marking (usually with fecals) by one or both groups along shared borders such as baby gates or in shared exercise areas. Even neutered/spayed somewhat rabbits are territorial, and such marking should be considered normal. One way to address this problem is to minimize the number of shared borders. In my home, groups have their own rooms that border on the hallway, which is usually a "rabbit-free" zone. Another way to reduce the problem is to experiment with rearranging warrens so that the more territorial groups are housed directly next to each other.

Litter-box Cleaning

You and your rabbit will need to negotiate how often his litter-box should be cleaned. Some rabbits like immaculate litter-boxes and would love it if you cleaned after every use. Others may be confused if you change it too often. Urine and poop in the litter-box encourage some rabbits to use it again. If you change it too frequently, it may give them the impression that they are not supposed to use it!

Training Problems

If your rabbit seems to kick a lot of litter out of his box, start by adding a snap-on frame to the box. This makes the box a bit taller to hop in and out of, but often solves the problem of inadvertently kicking litter (and poop) out of the box. You can also try switching to a different type of litter. If all else fails, you may want to try one of the hooded (enclosed) litter-boxes. However, some rabbits will not use this type of box, perhaps out of fear of being "trapped in a corner." A more enclosed litter-box also tends to trap odor and will probably need to be cleaned more frequently.



A second common problem with the simple rectangular litter-box is that your rabbit may back up so far that he

urinates over the edge of the litter-box. A deeper litter-box, with or without a snap-on frame, will often solve this problem. If your rabbit has difficulty getting into deeper—or framed—litter-box, high-backed litter-boxes are available in both corner (triangular) styles and standard (rectangular) styles. These boxes also feature a very low entryway on the opposite side, making them ideal for rabbits with mobility problems and for use after surgery.

third. Α less common, problem is the rabbit who intentionally digs all the litter out of his box. Some rabbits will then urinate in the empty box, getting both feet and tail urine-soaked. For these rabbits, you can place a piece of hardware cloth, cut to litterbox size, on top of the litter. Or you can purchase a "sifting" litter-box, then line solid portion with newspaper and litter and place the grated portion on top of the litter. Both of these approaches allow urine and some poops to pass through to the litter and keep your rabbit from making as much of a mess.

A rabbit's ears are made of plush

And lined with lovely pink;

They tell him when he ought to rush

Or when to stop and think

—May Carlton Lord

Please Renew Your Membership

HRN memberships run from April 1 to March 31. If you haven't done so already, please renew your membership. You will continue to receive copies of newsletter, Rabbit Tracks, and will help support our rabbits. HRN relies on donations from rabbit lovers to pay our bills. (If you have made a donation since January 1, we have credited you for the next year.) Thank you for your support!

Volunteer Opportunities

HRN is an all-volunteer organization. We need volunteers to assist with the functions of our organization. Can you help out? We are recruiting people actively who help our cause. Training assistance will provided. Here are a few examples of our needs:

Fund Raising

Can you run a fund-raising activity?

Yard Sale

Can you host and organize a yard sale for us?

Foster Homes

Do you have space to take in foster rabbits until they are adopted?

Computer Services

Are you comfortable with a computer? Can you help us update rabbits for adoption on sites such as PetFinder?

Web Services

Do you know HTML? Can you help us maintain our web site?

Education Events

Can you help man a booth at an adoption day?

These are just a few examples of needed activities. If you can assist with any of these, please contact us! Let us know how you can help. Get in touch with us online at info@rabbitnetwork.org or call us at 781-431-1211.

HRN News

Last Year in Brief

2002 was a banner year for HRN. We adopted out 123 rabbits! In addition, we participated in 15 adoption/ education events. Financially, we broke even for the year. We had \$12,000 in vet bills, which was 90% of our budget. While we have been successful with our adoptions, our greatest need right now is to acquire new volunteers.

Pictures and Stories Needed

Did you adopt from us? Do you have a great picture of your rabbit(s)? If so, please send it to us! We are gathering pictures for our 2004 calendar (SLR prints are preferred; digital photos must be large-format, high-resolution to be considered). Please contact us before sending any pictures through email because large files can overload mailboxes.

Do you have a great story to tell about your rabbit? Please send it in! We can include pictures and stories in the Family Album on our website.

Adoptable Rabbits

HRN has over 50 rabbits currently in foster care, waiting for loving indoor homes. All have been spayed or neutered, socialized and litter-box trained. Visit our website to see their photos!



Our Bun of the Month is Patch!

"Why do you wear your tail so short?"

The kittens asked the rabbit.

"I think the reason," he replied,

"Is simply force of habit."

—Caroline M. Fuller

Memorials

On a wall at the Windhover Veterinary Center, beside a memorial quilt to honor beloved pets, hangs this sign:

In time, the fact that a pet lived becomes more important than the fact that a pet died. As a Spanish proverb says, "No one can take away the dance you've already danced."

If you are grieving the loss of your own companion rabbit, you might find comfort at www.petloss.com.

We'd like to thank the *Belknap White Group* of Mansfield, Mass. For their generous donation of carpet samples (plus shipping) for our foster rabbit cages!



Fuzzbit

The human heart is empty, our friend. You, who finagled your way into a home which was to become your own. You, who had horrible litterbox habits until you spent the week-end in the bathroom and made us realize that bunnies know much more than we give them credit for. You, who enjoyed each meal as if it were your only. Beautiful, big red bunny, may you and Nigel find yourselves once again enjoying each other's company. May you never be separated again, not even for a moment. Love, Joanne and Ian



Thal

We loved all the many facets of your personality, especially your natural curiosity, your feistiness, and the warm welcome you always gave to a familiar face. You brought joy to so many lives, and will be truly missed. From Andrea in Loving Memory of thal, Pet and Friend of Mr. and Mrs. Ronald A. Mura, Jr.

Join HRN online!

Click here for our new, secure online application and donation form.

House Rabbit Network Membership and Ordering Form

Your membership donation is tax deductible and will be used for medical costs (spays/neuters, vet bills) and education expenses. All members will receive a copy of our newsletter, *Rabbit Tracks*, when it is published. Currently, we are publishing three issues per year.

Memberships run from April 1 to March 31 (donations received in Jan.–March will be credited for the following year). To join, fill out this page and mail it with your check (payable to the House Rabbit Network) to:

House Rabbit Network

	P.O. Box 2602 Woburn, MA 01999-1102		
Choose your membership level: ☐ Dwarf	Choose your newsletter delivery preference: PDF format via email (significant savings for HRN) Hard copy via U.S. Mail	Please send me copies of <i>Rabbit Health</i> <i>in the 21st Century</i> at \$15.00 each \$	
		Membership: \$	
Name		Book(s):	
Street	Apt.	Other contribution: \$	
City	State Zip		
Phone	Email .	Total: \$	