



WRNC Training

Basic Wildlife Rehabilitation Course



Cottontails





Cottontails

General Information

Prey species

Seen feeding at dusk & dawn, active at night

Scent glands under chin for marking territories

Lagomorphs: 4 upper & 2 lower incisors

Teeth grow throughout life – open ended incisors



Cottontails

General Information



Ears help control thermoregulatory system

Defense: biting & kicking with hind feet, growling or emitting high-pitched scream

Practice coprophagy: eat own feces directly from the anal region

Temperature is 101-103 degrees (warm to touch)



Cottontails

Cottontails use a shallow nest or depression lined with fur

Mom feeds young at dawn and at dusk

Average 4 litters per season with average of 3-6 young per litter (varies regionally)

Life span: 6 months to 2 years





Cottontails

Stages of Development

Born 3 inches long and naked, eyes and ears closed, ears tiny and flat against head, tail very small, can crawl and jump



Weigh 35-45 grams



Cottontails

Stages of Development

Fully furred in a week, eyes and ears open by 8 days,
one eye before other

In the wild weaned and on own at 4 weeks of age



Cottontails

Housing & Care



Cottontails

Hairless Babies



Provide warm secure place resembling natural nest

Use a small container with ventilated lid

Stimulate to urinate, urine is straw colored to clear (brown when it hasn't urinated for a while due to an empty stomach)

Usually defecate on own, yellow to dark olive green flecks





Cottontails

Don't use mom's nest as it contains fleas, mites and possibly ticks



Cottontails

Eyes closed

Don't allow them to become familiar with cat and dog scents (including on your hands and clothing)

Wash hands before handling to remove pet scents and creams that may be toxic

Wash hands after handling to prevent disease transmission

Wear latex gloves (recommended)



Cottontails

Eyes closed



Can squeeze thru 1" x 1" mesh

Keep only nest mates together where possible

Add lone bunny to healthy litter of same age only
when eyes closed, monitor closely



Cottontails

Eyes open, well furred

Prefer alfalfa hay and grass nests to cloth nests, provide these with small house to hide in

Never pet bunnies

Can't add a bunny to a litter at this stage



Provide separate area for urination, food and nest

Talk softly – no loud noises!



Cottontails





Cottontails



**Do not pick
bunny up by
the ears
(or tail!)**



Cottontails

Pick up carefully. They are fragile and they jump unexpectedly, even when eyes are still closed.

They startle and bolt, and could get dropped.



Cottontails

Support hind quarters

When holding use two hands, one to support hind quarters to prevent fracture of the spine that can occur if their legs dangle or they kick with hind legs.



Kennels that open only from the front do not work well as it's hard to pick up bunny with two hands.



Cottontails

Weaned

Use a big enough container for them to spread out (in wild leave birthing nest and build own nest).

If container is too small they get stressed causing diarrhea or fights, 4 bunnies max in large kennel or plastic tub

Provide room for separate nests

Monitor stress levels – jumping up, bumping head,



Cottontails

Minimum Standards

	<u>Infant care</u>	<u>Nursing/Pre-weaned</u>	<u>Juvenile</u>
Cottontail	(L) 10 GAL	(L) 20 Gal	6x6x4



Cottontails

Feeding



Cottontails

	% Solids	% Fat	% Protein	% Carbo
Jenness and Sloan	36.1	17.9	12.5	1.0
Oftedal	35.2	14.4	15.8	2.7
<hr/>				
1 Esbilac + 1 MMilk + 1.5 H ₂ O	32.6	16.4	10.8	2.6
<hr/>				
1 Esbilac + 1/4 WCream + 1 H ₂ O	29.7	15.9	8.4	4.0
<hr/>				
1 KMR + 1.5 Mmilk + 2 H ₂ O	31.8	13.9	11.7	3.2
<hr/>				



Cottontails

Formulas



1

+ H₂O +

1.5



1



Cottontails

Formulas



+

H₂O

1

2



Cottontails

Formulas



1

+ H₂O +

2



1



Cottontails

Formula Preparation & Storage

Mix fresh daily, refrigerate between feeding, heat only amount used per feeding, discard unused warm formula

Use bottled water especially if your water quality is poor or if you have mineralized well water

Test temperature – won't eat if cold or warm – **HOT!**

Don't use same feeding implement across litters



Cottontails

Formula Preparation & Storage



Heat by immersing syringe in warm water or placing cup in warm water, don't boil or heat in microwave



Cottontails

Feeding Amounts

Neonates fed 4 times per day, furred eyes-closed infants 3 times, eyes open 2 times per day

5% - 10% of body weight per feeding (totaling 20% daily)

Check shape of abdomen during feeding

Do not overfeed: don't exceed 25% of body weight

Weigh baby once a day at same time each day and adjust formula amount according to weight



Cottontails

Feeding problems & techniques



They might not suckle -
patience needed

Place small drop on lips

Temperature of formula
important, must be **HOT!**

Won't eat if dehydrated





Cottontails



Use feeding syringe alone or with Catac nipple or larger pointed version of pet nurser nipple, need fairly large hole. Can use Miracle Nipples, short or long length.



Cottontails



2 box procedure



Cottontails

Ensure good intestinal flora

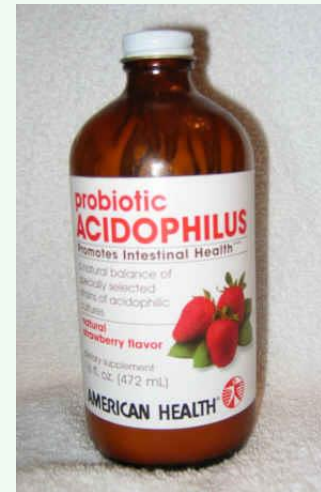
Use a probiotic (beneficial bacteria)

Regular, fruit flavored yogurt

Choose brands with several live cultures



Bene-bac



Lactobacillus acidophilus



Cottontails



Feeding Techniques & Problems

Gradual introduction of formula after hydration

When you receive a bunny that has been fed cows milk, first meal should be Pedialyte or lactated ringers & lactobacillus acidophilus (1 to 1)

Gavage feeding used only when eyes not open, esophagus is difficult to locate



Cottontails

Weaning

Once eyes are open, begin adding solids to box - add fresh grass and clover even earlier – may start to nibble before

Provide timothy hay, alfalfa hay, Old Fashioned Quaker Oats (not instant) and rabbit pellets or rabbit chow

Provide small, heavy (can't be tipped over), shallow lid of formula, another lid of yogurt



Cottontails

Weaning



Timothy Hay



Rabbit Pellets



Quaker Oats



Alfalfa



Cottontails

Weaning

Provide apple slices (minus the peel), grated carrots and carrot tops, green beans, corn and wild strawberries (no iceberg lettuce, broccoli or cabbage)

Introduce natural greens (clover, chickweed, plantain and dandelions), introduce gradually to prevent bunny bloat

Add green leaf lettuces



Cottontails





Cottontails

Adult diet



Dandelion



Plantain

2 good-sized handfuls of grass/greens twice a day



Chickweed



Clover



Cottontails

Coprophagy



Cottontails

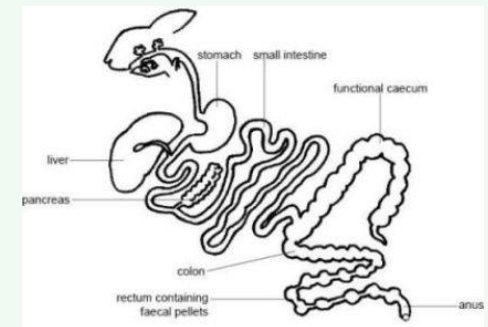
Coprophagy

Stomach can't digest cellulose walls of plants

Large cecum (pocket off intestines) is storage organ with special enzymes

Cecum dumps contents into intestinal track

These special feces are re-ingested





Cottontails

Diarrhea

**The silent
killer**



Cottontails

Conditions that cause diarrhea

Overfeeding

Abrupt changes in diet or room temperature

Unclean feeding instruments (sterilize daily)

Parasites such as worms or intestinal bacteria

Spoiled formula

STRESS!



Cottontails

Conditions that cause diarrhea

Frequent loud noises causing stress

Excessive handling causing stress

Exposure to predators leading to stress

Seeing people, no privacy barriers/cage screens

Exposure to pesticides from fruits or vegetables

Exposure to other chemicals (chlorine in water, perfumes, cigarette smoke, cosmetics, etc.)



Cottontails

Treatment for Diarrhea

Take away all solids except alfalfa hay.

Feed 1:1 ratio of lactated ringers and lactobacillus acidophilus (the bunnies usual feeding amount) for first feeding

Feed a smaller amount of formula for next meal

If stool firms up, resume feeding normal portion of formula and begin gradual reintroduction of other foodstuffs

If stool hasn't firmed up continue ringers and lactobacillus acidophilus; consider dose of Imodium or Biosol Liquid



Cottontails

Release



Cottontails

Release

Fully weaned, eating natural foods, no diarrhea

Wary of people, they do not want to be picked up

Weights vary between 125g to 200g, use behavior and developmental status as guide

At signs of stress – release! Keeping longer = death

Injuries completely healed, in top condition

Acclimated to outdoors: dirt & natural materials on bottom of cage, temperature matching outdoor conditions, hearing natural sounds, open window in rehab room



Cottontails

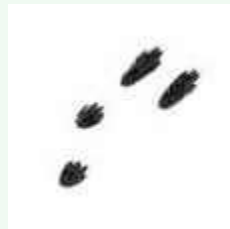
Release considerations

Weather conditions

Site selection

Release in evening

Do not winter over –
too high strung





Cottontails

Key Points

Support hind quarters when picking up

Provide separate nests once weaned

Use a probiotic and don't overfeed

Eliminate stress agents



WRNC Training

Cottontails