



Companion rabbits: Assessing their needs and behaviour

Firstly, what is a rabbit?

Rabbits were domesticated around 1500 years ago. They originate from the European wild rabbit: a social burrowing herbivore native to the Iberian Peninsula. This habitat produces relatively poor quality forage, hence rabbits evolved to spend up to 12 hours daily foraging, grazing and in refecation (eating their own partly-digested faecal pellets). Rabbits are natural prey for many species, with predators approaching from underground, ground level and the air. They have therefore evolved in terms of anatomy, physiology and behaviour to be highly vigilant and detect/avoid danger. Wild rabbits have flecked coats for camouflage. They have large erect ears which swivel and move independently of each other to catch/funnel sound. A rabbit's lateral eye positioning allows a wide field of vision excluding a 60 degree blind spot immediately in front of them, which reduces with periscoping (sitting or standing on their hind legs). Rabbits are crepuscular, with their sight adapted for dawn and dusk light intensities. They position themselves down-wind of scent and their noses regularly twitch, which increases with apprehension. Rabbits have cleft upper lips to enhance moisture and scent.

If wild rabbits detect danger, they freeze, flee to sanctuary or alert other rabbits by thumping their back legs. Their muscular back legs and springboard feet allow them to run or jump at speed and change direction to confuse predators. When defensive, rabbits can use ascending signals including muscle tension, posturing, vocalisations and biting. They can display tonic immobility (appear dead) if caught, to encourage the predator to loosen its grip. Having sanctuary is essential to rabbits; therefore they typically live in complex underground warrens with multiples exit and entrance areas to avoid being 'blocked in'. When foraging, grazing or socialising above-ground, they range over an area of 1580-2185m². This amounts to around a quarter the size of a professional football pitch. Wild rabbits live in groups with 2-14 individuals. For any prey species, there is safety in numbers. They deposit scent in faecal-accumulation latrines to maintain group integrity, and chin-rub each other and objects to transfer scent-gland secretions. Rabbits can spray urine at intruders or during courtship.

Rabbit domestication has resulted in changes to their size, coat (colour, length and texture), ear morphology and face shape. An under-explored area is whether these changes predispose rabbits towards further anxiety. For example, a lop-eared rabbit may not be able to catch or funnel sound as effectively and may be less able to predict its environment, and a lion-head rabbit's field of vision may be compromised. However, there *is* robust evidence to conclude that the behaviour of domesticated and wild rabbits remains the same and that both utilise similar resources with opportunity. To assess the needs and behaviour of companion rabbits, it is therefore essential to consider their management in relation to the habitat, biology and behaviour of their wild cousins.





What do companion rabbits need?

Companion rabbits need housing in which they have shelter and feel safe, an exercise area which they can ideally access freely, companionship and an appropriate diet. Hutches have become the 'norm' for keeping rabbits, but other housing types can be more appropriate. For example, adapted sheds or children's playhouses (often available via upcycling websites) can offer more space and a sheltered area for caregivers to interact with their rabbit. Housing should be located away from draughts, direct sunlight and stimuli which may cause stress. Rabbits should have as much space as possible in their housing area, but as a minimum they should be able to make three continuous hopping movements and periscope (sit or stand on their hind legs). If space allows, housing should contain elevated platforms for vigilance behaviour, as well as pipes, tunnels or cardboard boxes with two entrance/exit areas cut from the sides to mimic a burrow, as shown here. As a prey species, rabbits need choices and to avoid feeling 'blocked in'.



Rabbits naturally toilet in corners and this can be exploited to encourage them to toilet in well-placed litter trays. Soiled substrate should be removed from the rabbits housing each day. This is to limit disease risk and because rabbits find it stressful to be in close proximity of soiled substrate which may attract the attention of a predator such as a fox.

The rabbits exercise area should ideally be incorporated within or attached to the main housing, as shown here (note the pipe connecting the shed and exercise run). This allows the rabbit choice to enter/exit these areas at will; including at dawn, dusk and night. The exercise area should be as large as possible to ensure the rabbit has space to run, jump, hop, stretch and periscope. It should be enriched with elevated platforms, tunnels or pipes and a large potting tray filled with non-toxic soil. The soil allows the rabbit to perform natural burrowing behaviour and opportunity to cool down by turning this to expose a cool area to lie on. Providing a rabbit with ideal housing and exercise areas is important for their physical and mental health. For both indoor and outdoor rabbits, these should be safe, secure and rabbit-proof, as rabbits can be destructive and able to jump over uncovered boundaries. Secure housing and exercise areas also keep the rabbit physically safe from predators which may approach from the ground, underground or air.



For companionship, rabbits should have the company of another rabbit. A neutered male and female is the best combination, although both rabbits should be expertly introduced. There are individuals and organisations offering introduction advice (see 'resources' below). When caregivers are building a relationship with their rabbit, is it necessary to be aware that, for a prey species, being approached, restrained or picked up can be highly stressful. Where possible, interactions should therefore be at a level that the rabbit is comfortable with and the rabbit should have the environmental control to avoid the interaction if they wish.



In addition to fresh drinking water, rabbits should be given a varied diet with unlimited hay and regular provisions of appropriate vegetables, herbs and fruit scattered amongst hay or straw to encourage foraging. Commercial rabbit muesli should be avoided, and commercial food pellets should be limited to 25g per kilogram of bodyweight, per rabbit per day. Home-made activity feeders can be given for novelty and exploration. These can include cardboard egg boxes or kitchen roll tubes, filled with hay, herbs, fruit and food pellets.

Normal behaviour or problem behaviour?

A rabbit's behaviour is an expression of how they are feeling regarding their physical state (i.e. pain, disease or hunger) and emotional state (i.e. fear, frustration or pleasure). Problem behaviour can therefore be a normal response to a short or long-term situation that the rabbit is unable to cope well with. Caregivers should first consult with a Veterinary Surgeon to have their rabbit assessed for health issues. If health is not implicated, it is necessary to know *why* the rabbit is behaving as it is and to implement a treatment plan. A qualified and accredited Clinical Animal Behaviourist can help with this (see the 'resources' section below).

Resources

Rabbit diet, housing, introduction and enrichment advice:

Rabbit Welfare Association and Fund (RWF) (www.rabbitwelfare.co.uk)

Registers of Clinical Animal Behaviourists:

Fellowship of Animal Behaviour Clinicians (www.fabc.org)

ASAB-registered Certificated Clinical Animal Behaviourists (www.asab.org/ccab)

ABTC-registered Clinical Animal Behaviourists (www.abtcouncil.org.uk)

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