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FVE comments on farmed rabbits

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FVE, 19 January 2017

RE: Rabbit welfare and support of Own Initiative Report 2016/2077(INI)

Dear members of the European Parliament,

The Federation of Veterinarians of Europe (FVE) follows with great interest the discussions taking place with regard to the own-initiative rapport of MEP Stefan Eck (Germany) that is proposing **legislation and minimum standards for farm rabbits** in Europe.

Animal health and welfare is a core concern of the FVE. We are therefore pleased to see the interest in this subject. FVE has long **called for the setting of legislative minimum standards in rabbit farming**.

In our document you can find the key recommendations of FVE on the main topics debated. This document was composed on the basis of input given by veterinarians specialised in rabbit welfare, experts in the field of rabbit research from different EU countries and existing scientific publications. In addition, we also include some background information on rabbit farming and the types of housing used in Europe.

Our main points and recommendations are:

- FVE welcomes the call for legislation and guidelines on the welfare of rabbit farming.
- Rabbits are sentient beings and need to be treated accordingly. They, like other intensively reared animals, require legislation to protect their health and welfare.
- Protecting an animal's welfare means providing for its physical and mental needs. An animal can experience mental distress without evidence of poor physical health.
- Rabbits are highly social animals, preferring to live in groups except around giving birth

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- The biological needs of farmed rabbits are the same as wild rabbits but the threshold to express behaviours and the strength and frequency of behaviours has been modified.
- The need to be able to express certain behaviours such as gnawing, hopping and social interaction with other rabbits is essential for rabbit welfare
- Rabbits need access to a diet high in fibre (hay or grass) to prevent respiratory and gastro-intestinal diseases.
- Good ventilation and bio-security are vital. Whatever housing system used, it should be easy to clean and disinfect.
- The housing of does and their litter is different from the housing of fattening rabbits.
- Morbidity and mortality remain big problems in rabbit farming, especially due to respiratory and gastro-intestinal diseases.
- The intensive cage systems used today cannot meet all the five freedoms of welfare required by rabbits. The move towards group housing and park housing for fatteners is beneficial. For breeding does, further research is needed, especially in respect to group-housing.
- Antibiotics are needed to treat bacterial diseases in rabbits. Through improved housing, ventilation, hygiene and management, it has been shown to be possible that certain bacterial diseases can be reduced or prevented with the reduction of use of antibiotics (e.g. feed restriction after weaning against gastro-intestinal infections).
- Welfare issues also arise around the transport and slaughter of farmed rabbits.

You can find each of these recommendations with greater detail explained below.

Please do not hesitate to contact us for more information on nancy@fve.org

1. The species and farming of rabbits

1.1 Rabbits (*Oryctolagus cuniculi*)

Rabbits are **gregarious, territorial animals**. They prefer to **live in groups** in large, complex burrow systems. A typical colony in the wild consists of six to ten adults of both sexes. The colonies have distinct dominance hierarchies, which are particularly important for males, as dominance position determines which male have preferential access to mate. Territoriality is also most evident among dominant males during the breeding season)

The preferred habitats of the species include dry areas, with soft and sandy soil (burrowing). Brushy fields are preferred for the cover they provide. Cultivated land is also well-suited (Parker, 1990).



Figure 1 - 'Wild' rabbit

The wild rabbit weighs between 1.5 and 2.5 kilograms and are from 38 – 50 cm long. Domestic individuals may be longer and heavier. The coat of the wild rabbit is most greyish, with black and brown sprinkled throughout. Domestic rabbits vary tremendously in size, fur, type, coloration and general appearance.

The **lifespan** of the well-cared domestic pet rabbits can be up to 8 to 12 years, depending on the breed. However, in the wild population, mortality is generally quite high (can reach 90%) – the average life span will be less than 1 years (MacDonald 1984, Nowak 1999). In farming, the average lifespan of a doe is less than a year and fattening rabbits are slaughtered at 80 days on average (most of the time between 10 – 13 weeks).



Figure 2 - Domestic rabbit

1.2 Lifecycle of the farm rabbit

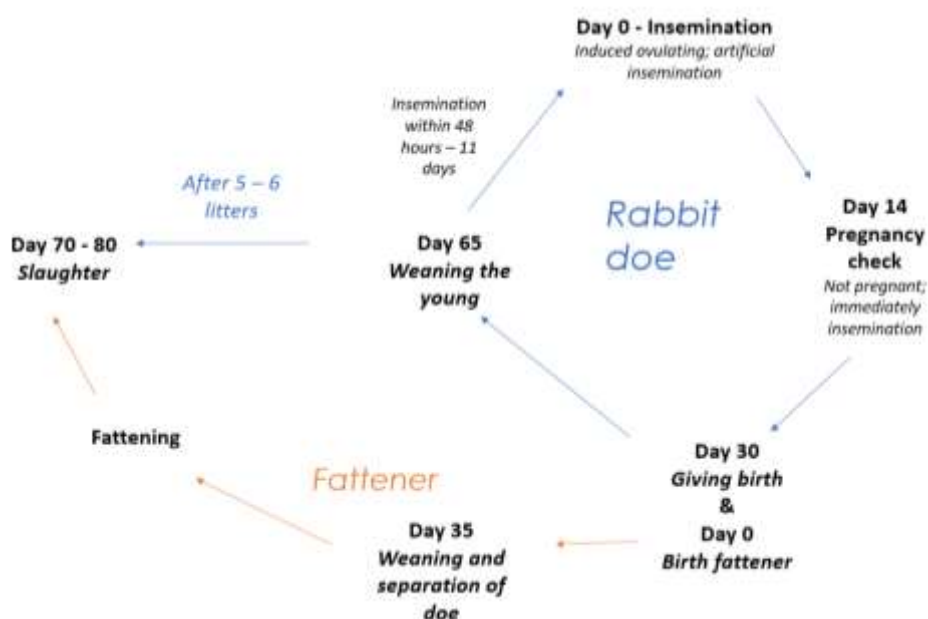


Figure 3 Lifecycle of a rabbit on the farm, based on the European (intensive) system

The ovulation of does is induced by mating. In European rabbit farming does will get **artificially inseminated** within 48 hours or 11 days after kindling and weaning. The kids will stay with the doe until 28-35 days when they are weaned. The mortality rate between birth and weaning is high, around 10 - 15 %. Strict preventive hygiene is very important in this period. In the weaning period, from the age of 20 days the young gradually change from an exclusively milk feeding to solid feed and at the end of the period, doe and young are separated.

The **duration of fattening** varies, depending on the carcass weight and the production conditions of the rabbitry. In the intensive European production, the fattening period is around 5-7 weeks. The rabbits will weigh around 2.4 – 2.6 kg (live weight) when they are ready for slaughter. In some areas the slaughter weight is 2.8 - 3 kg. During the weaning-to-slaughter mortality varies between 5 – 15%.

The **quick cycle** requires high quality and very balanced feeding and a producer with a high level of expertise. Because of the intensive reproduction, the turnover of the breeding stock is high. Monthly culling rates of 8 – 10% are not uncommon (FAO, 2003).

1.3 Rabbit feeding

Rabbits have evolved to eat a **natural diet of grasses and other vegetation** that is **high in fibre** and of low nutritive quality, and a high fibre diet remains very important for rabbits' digestive health. Rabbits in commercial farms are mostly exclusively fed on pellet food. Farmed rabbits can rarely benefit from supplementary fibrous material such as hay. In addition to the nutritional benefit, having forage available is good for mental wellbeing, preventing boredom related stereotypic behaviours, including aggression (Berthelsen, 1999). Failure to provide good quality of food (a fibrous diet, quality pellets) underlies many of the enteric problems that rabbits suffer from (Gidenne, 2015).

1.4 Production of rabbit meat

Countries of the EU hold almost 90% of the **imports** and 30% of the **exports** in the world. It is possible to say that the production of rabbit meat is, first of all, a European activity. The producing of rabbit meat is mostly concentrated in three countries: Spain (73.000 tonnes), France (52.000 tonnes) and Italy (32.000 tonnes) (Avitalia, n.d.; EMA, 2016).



Rabbitries are well suited for farmers, because the advantages (closely related to the reproductive and feeding behaviour) are high: the species is profitable and easy to integrate. The rabbit is a small mono-gastric herbivore and can easily accommodate a wide range of cellulose-rich foods with not a lot of labour (costs are mostly low). To start up a rabbit farm, experience, knowledge and high investment are however necessary.





Due to the mating-induced ovulation, short gestation and lactation periods and great prolificacy the rabbit is highly productive in offspring (kg/year). Rabbit meat is highly nutritious, low-fat and low-cholesterol. However, there are constraints – they may concern social, cultural and economic factors (acceptance by customer of rabbit meat is low, depending upon the country) and there is a lot of mortality / morbidity on the farms (FAO, 2003).



2. Terminology

In the report, different terminology is used. To define the different (housing systems for) commercially farmed rabbits, please find the different terms further explained.

FATTENERS



Term	Explanation
<i>Fatteners</i>	Fattening rabbits, after weaning. Most are slaughtered before the age of 11 weeks.
<i>Individual housing</i>  L214 – Ethique & Animaux	One fattening rabbit per cage. Seldom.
<i>Group housing</i>  L214 – Ethique & Animaux	<p>Keeping rabbits together in groups, about 6 – 8 fatteners in a cage. Common.</p> <p>In some rare cases fattening rabbits are kept in small cages with only two rabbits per cage.</p>

		
<p>© Compassion in World Farming</p> <p><i>Unenriched cage</i></p>  <p>L214 – Ethique & Animaux</p>		<p>Small barren wire housing system, height usually 30 cm, to house 6 – 8 fatteners after weaning. Constructed for fall out of urine and droppings.</p>
<p><i>Enriched cage</i></p> 		<p>Small wire housing system (~60 cm height), enriched with a second level (platform) and the presence of gnawing material</p>
<p><i>'Park' housing</i></p>  <p>© Jansen Livestock Equipment</p>		<p>Group housing system, used to house fatteners (minimum 20 together) with at least one side of 1.80 m, a platform, gnawing material, open from the upper side and plastic slatted flooring (covers more than 80 percent) of ground space. (See Belgium regulations)</p>

<p><i>Pen housing</i></p>  <p>© J. Rommers, L. Maertens</p>	<p>Pen housing is similar to park housing. One or more rabbits in an open-topped enclosure, with the pen in- or outdoors.</p>
<p><i>Hutch housing</i></p> 	<p>Keeping rabbits in a wooden box, usually with a mesh window in the front. Rabbits may be group or singly housed, most of the time outside. This is common housing for pet rabbits bred for exhibition or competitions. It is not common for commercial rabbit production. Keeping the hutch clean can be a problem.</p>

DOES

Term	Explanation
<i>A litter</i>	A group of young fattening rabbits, till weaning.
<i>Individual housing</i>	One doe per cage, after parturition with her litter.
<i>Group housing</i>	More does per cage, in the period before parturition and a some time after parturition.

<p><i>Cage housing</i></p>  <p>© L214 – Ethique & Animaux</p>	<p>Small wire housing system, to house one female with her litter before weaning. The cage has sometimes a platform, so the doe can withdraw herself from the litter when they start leaving the nest box and a wooden stick. Individual housing is most common for does.</p>
<p><i>'Park' system</i></p>  <p>© Rommers, WLR</p>	<p>Group housing system, with at least one side of 1.80 m, a platform, gnawing material, open from the upper side and plastic slatted flooring (covers more than 80 percent) of ground space. The 'park' system will only be possible when part-time group housing is being applied. Around the parturition, does are usually housed individually as they defend their nests and can disturb other nests.</p>

3. Definition of 'animal welfare'

An animal is in a **positive welfare state**, when it has the **freedom** to react adequately to:

- Hunger, thirst or incorrect food;
- Thermal and physical discomfort;
- Injuries or diseases;
- Fear and chronic stress;
- The freedom to display normal behavioural patterns that will allow the animal to adapt to the demands of the prevailing environmental circumstances and enable it to reach a state that it perceives as positive;

Animal welfare is about the *physical and mental wellbeing* of the animals. Welfare is not necessarily good if physical health is good. This view on welfare implicates that housing systems should not only be designed in order to maintain good health but at the same time needs to fulfil the behavioural needs of the animals.

However, the use of the word welfare is less accepted, because it is a broad term and different people can use it in different ways. Rather we speak of systems that cover the basic needs of the rabbits.

4. Biological needs of farmed rabbits vs. 'wild' rabbits?

The **biological needs of farmed rabbits are the same as wild rabbits**. Despite the long period of confinement and selective breeding under the supervision of humans, the inherent, natural behaviour of 'wild' rabbits is still present in the domestic rabbit. The process of changing animals genetically (e.g. size, coat colour and texture) and phenotypically (e.g. docile nature) under human supervision, is the process that we call domestication. We see that domestication has resulted in selection for behaviour – reduction of fear, increasing of reward motivation and a higher tolerance for stress. These emotional traits (fear and stress) can be independently strengthened or weakened by selective breeding (Grandin, 2013). However, the inherent, natural behaviour of the rabbit is not influenced by domestication. Farm rabbits will display the same behaviour as 'wild rabbits', if they have the opportunity to express their normal behaviour. If you put them back in the wild, they will manage to survive, as 'wild' rabbits.

It is important to emphasize that no behaviours have disappeared in the process of domestication, but the threshold to express behaviours and the strength and frequency of behaviours changed. Expressing their natural behaviour (e.g. gnawing, hopping and jumping) is a biological need, just as the need for food with enough fibre, to have enough space and more. ('Consumer demand test' by WUR – rabbits had to push against a weighted door and this showed that rabbits really wanted to work for the gnawing material).

Enough space is necessary to provide rabbits to express jumping and running, as a part of rabbits' courtship and territorial behaviour, but also to escape from predators. Wild rabbits provide themselves with a place to hide, when a predator is close. Rabbits that are kept in cages do not know there are no natural predators around or may see humans as predators; they may be stressed because they have nowhere to hide. This needs special attention in open housing.

The minimal behaviours that a rabbit should be able to express are gnawing, resting, withdrawing (shelters), exploring, interacting with conspecifics, hopping and jumping to cover a big part of their biological needs, which also applies for farmed rabbits.

5. Farmed rabbits – morbidity and mortality

Despite obvious improvements, due to greater knowledge of physiological needs, food and environmental factors for rabbits – **morbidity and mortality** remains a big problem in rabbit farming. The EFSA concluded in 2005 that mortality and morbidity in farmed rabbits is considerably higher than in other farm species. This is mostly due to the enteric and respiratory infections and reproductive

disease. Experts share this conclusion out of research, for example described in 'Study of urgent visits to commercial rabbit farms in Spain and Portugal during 1997 – 2007' (Rosell, 2010), where almost 45 % of the visits were due to diseases of the digestive system. Good climate regulation (ventilation for respiratory diseases) and good management (feeding programmes) will conquer many of these problems.

Today mortality is somewhat higher than in other farmed species, but this is also partly 'inherent' with the high reproduction potential (e.g. just as with pigs). The mortality rate depends on the farm, and most of the time takes place in the first week after parturition and around weaning. Have to keep in mind that with rabbits the reproduction cycle is very short (every 6 weeks is possible), which makes does have a very short reproductive life.

The mortality rate of fatteners is 6 – 10 % on average. If feed restrictions and a good hygienic programme is used (e.g. all-in all out), the mortality rate can be lower. However, it can increase to 15 - 20% or in extreme cases, to 70% e.g. linked to gastro-intestinal disease outbreaks in case of mistakes in management.

Due to **rabbits being a minor species**, there is a lack of authorised veterinary medicines and vaccines. It is apparently economically not viable for companies to invest in rabbit veterinary medicines, because they are MUMS (Minor Use- Minor Species). Use of off-label medication is therefore high. The production and research for medication and vaccination should be increased for this species (e.g. feed restriction after weaning against gastro-intestinal infections).

6. Housing systems – the cage and the 'park' – system

Keeping rabbits in intensive conditions and trying to provide their normal behaviours, is a great challenge. Digging and scraping on adequate material are behaviours that are not possible to provide in intensive housing systems. Rabbits have great need for good ventilation and access to a diet that is high in balanced fibre (and hay or grass), to prevent their respiratory and gastro-intestinal diseases

FATTENING RABBITS

6.1 (Enriched) cage system for fatteners

A cage system is for the rabbit most often a barren condition – no bedding, restricted space and movement. Young rabbits are active, playful animals and need enough space to do this. If rabbits are kept alone in a cage, frustration can result in stereotypic behaviour (e.g. self-mutilation or constantly playing with the water bottle). Small cages with only two rabbits cannot meet their normal behaviours, because this system does not allow any possibility to express mobility. In the deliberation of the EFSA 2005 opinion they refer to the minimum

dimensions of a cage needing to be at least 74-80 cm of length and 38-40 cm of height.

When given the choice, rabbits utilise different parts of their environment for different functions, such as feeding, resting and excretion (Hawkins 2008). A problem in the cage systems is to create functional areas such as for eating, drinking and resting. The larger the cage for fatteners, the more space is available for locomotion. Rabbits rest about 50% or more of their time, and do this mostly by laying together. A lot of 'free' space would be required for hopping.

Group housing of fatteners is essential to meet their basic needs, but can give problems with aggression due to mixing of litters and when they reach maturity. This problem can be handled by good housing design, including providing hiding places, by selective breeding and by good stockmanship and management. Groups should be mixed as little as possible and stay as much as possible with litter mates.

Enrichment (e.g. by putting in the platform and by adding gnawing material) will allow the rabbits to express better their normal behaviour. It is depending on the size of the cage and the applied enrichments (for instance: platform, wooden stick, roughage etc.). All enriching materials should not attract dirt, must be easily washable, disinfectable and have no elements that can hurt the rabbit. Certain enrichments may be more effective in certain housing systems. Ideally enrichment materials used should meet different criteria (similarly as enrichment materials for pigs (EC 2014); they need to be safe, sustain interest, be easy to clean, be investigable, chewable and edible.

Alternative housing systems are extensively researched in experimental facilities, since the regulations of 'Directive 2010 / 63' was accepted. Before 2013 most rabbits were housed in experimental facilities alone in cages without any enrichment. Since the Directive 2010 / 63 most experimental rabbits have to be given the opportunity to eat hay, to jump on a platform and have social interaction with other litter mates.

A raised area/platform shall be provided within the enclosure. This raised area must allow the animal to lie and sit and easily move underneath, and shall not cover more than 40 % of the floor space. When for scientific or veterinary reasons a raised area cannot be used, the enclosure shall be 33 % larger for a single rabbit and 60 % larger for two rabbits.

All animals shall be provided with space of sufficient complexity to allow expression of a wide range of normal behaviour. They shall be given a degree of control and choice over their environment to reduce stress-induced behaviour. Establishments shall have appropriate **enrichment techniques** in place, to extend the range of activities available to the animals and increase their coping activities including physical exercise, foraging, manipulative and cognitive activities, as

appropriate to the species. Environmental enrichment in animal enclosures shall be adapted to the species and individual needs of the animals concerned. The enrichment strategies in establishments shall be regularly reviewed and updated.

6.2 'Park' and other group housing systems for fatteners

Rabbits are animals that live in groups and need the presence of conspecifics. The motivation for social contact is high. Lack of social contact is a serious deprivation for a rabbit, so the welfare of those kept in social isolation will be poor (Broom 2015). It has been shown that group housing reduces abnormal and stereotypic behaviour. Most common in farming of fattening rabbits is to keep them in groups. Rabbits that are reaching sexual maturity or sometime earlier in respect to rank setting, the presence of other rabbits will stimulate the instinct to protect territory or mate. They can inflict serious fight wounds on each other (often attacking genital organs which might entail evisceration), however cannibalism does not occur in fattening rabbits.

Rabbits that are not sexually mature (i.e. fattening rabbits which are less than 12 weeks old) can be kept together, especially when they are in small groups. It is recommended to keep the littermates together, but they always need enough space to have the freedom to exhibit natural behaviour. This will improve animal health and welfare. Housing them together will stimulate social interaction. Rabbits will have the opportunity to interact positively (e.g. grooming, playing, lying next to each other) and coordinate their activities (e.g. drinking and eating together). When aggressiveness is shown, gnawing sticks or soft wood (fixed on the cage wall) are very effective to reduce this behaviour. When group size is above the maximum (depending on the cage – maximum stocking density is 16 – 18 rabbits / m²) there is a higher risk of contamination and related disease and mortality (higher rates of aggressiveness and injured rabbits). The farmer should not exceed the maximum in order to prevent contamination and aggressiveness (Szendrő, 2011).

The housing system should always be easy to clean. All housing systems should be properly cleaned and disinfected between groups, which will reduce the number of pathogens that can cause disease. The hygienic status and management (preferable all-in, all-out system) of the farm are important and can largely overcome these problems.

The park system is a solution that has more potential to meet the basic needs of the rabbit. Park systems provide more space for the rabbits, have platforms (more functional area for the rabbit to move) and more enrichment. This will increase the mobility and provides more opportunities to fulfil normal behaviour, compared with the cage system. According to several studies welfare has improved in park systems, because this system provides more movement (especially horizontal) and has no restriction in height, which will stimulate hopping and jumping and more social interaction. In Belgium, the system is

already obliged from August 2014. Farmers do find difficulties in cleaning the slatted floors, that increases gastro-intestinal diseases.

DOES

6.3 Cage system for does

The **cage system is most common for does**, where 1 female and her litter are housed before weaning with a compartment, so the doe can withdraw herself from the kits when they start leaving the nest.

Does kept in enriched cage systems show less restlessness, excessive grooming, bar-gnawing and timidity than rabbits kept in a 'normal' cage system (Hansen, 2000). This indicates that stress will decrease if rabbits are kept in enriched cage systems.

6.4 Group housing of does

Group housing of breeding does is a challenge due to aggression. In the wild does spend time away from the main social group when giving birth and feeding kits. In between feeding, they leave their kids for most of the day, during which they return to the main group (Stauffacher, 1992). Group housing of does will only be possible when part-time group housing is being applied. Around the time of parturition, the doe wants to be on her own. Putting the doe in a group around the parturition time will lead to high kit mortality, because does will disturb each other's nest, and will lead to increased number of doe injuries.

Since 1999 Wageningen Livestock Research is doing research on this subject. Firstly, they studied group housing of lactating does during the whole of lactation, but this caused too many problems. Group housing of does, independent of the larger area for moving and social contact, contravenes the welfare recommendations often resulting in chronic stress, aggressiveness and injuries, higher risk of diseases, mortality and a lower reproduction rate. Aggression among does is the most important problem to tackle before group housing can be introduced in practice (Szendrő, 2012). Aggression among does can result in (severe) skin damages (WLR, n.d.)

The last couple of years' research in many countries such as Belgium, Switzerland and the Netherlands focussed on part-time group housing of the rabbits (Buijs et al., 2014) (Maertens and Buijs, 2016). The rabbit is kept individually with their litter until approximately 21 – 23 days of lactation, which reduces stress during the reproduction period (compared with group housing). After this point, they were housed in groups until weaning of the litter at 35 days of age.

ALL

6.5 Impact of space allowance

The surface space given to a rabbit varies between 1200 to 4000 cm². Higher space allowance is found to increase locomotor and social activity, and to reduce resting and comfort behaviour. Restricted pen height increased ingestive behaviour; comfort behaviours decreased as space allowance increased, although these might have been confounded with self-directed behaviours in the literature. Mortality remained stable at varying space allowances, but increased with larger group sizes and enrichment objects. Growth rate, feed intake and feed conversion were reduced with higher space allowances and larger group sizes, and by provision of substrate and enrichment objects. Findings suggest that higher space allowance and unrestricted pen height are beneficial for rabbit behaviour, but might have undesired consequences if considered independent from other aspects. The challenge of promoting welfare in commercial conditions was highlighted, as some parameters that improved behavioural expression reduced performance. In some cases welfare inputs complemented performance, including providing non-medicated feed and higher space allowance in cooler climates. (Somerville 2016)

7. Rabbit disease and use of medication

Rabbits are vulnerable to diseases, especially just after weaning. Antibiotics are needed to treat bacterial diseases in rabbits. They are mostly used in young rabbits for gastro-intestinal and respiratory diseases and in older rabbits for reproductive diseases. There are many risk factors for high antimicrobial use. Through improved housing, ventilation, hygiene and management, it has shown to be possible that certain diseases can be prevented and antibiotic requirements can be reduced. Countries such as France have adopted specific action plans and have seen a reduction of the use of antibiotics in rabbits by almost 50%.

A 3-week period of restricted feeding after weaning was shown to be a suitable alternative to the use of medicated feed, also for higher growth potential genotypes (Alabiso, 2016).

8. Other welfare issues

Transport

Rabbits should be slaughtered as close as possible to the place of production.

Stunning and slaughter of rabbits

Rabbits have to be stunned before slaughtering; electric shock, captive bolt or with gas (for example: the use of carbon dioxide) (EFSA 2013). Ongoing research is being done on how to make slaughter and stunning more welfare friendly.

9. Recent developments

- In recent years there has been a lot of development and new requirements came into place in some countries (e.g. Belgium, the Netherlands, Germany and Switzerland), which will be useful to evaluate and can possibly provide guidance for drafting future minimum standards. More and more farms are experimenting with using large pens with enrichment (e.g. platforms, tunnels, hiding places, hay gnawing blocks).
- During the last four years, there have been several trials with part-time group housing (in park) systems, where the does around parturition and the first lactation weeks are housed individually, with promising results. However, research is still necessary to improve the design of the park and / or to avoid the hierarchy fights, before this system can be recommended.

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