



**HAL**  
open science

## Effect of the presence of apple trees on the behaviour of growing rabbits bred outdoors

Morgane Genin, Avelyne S Villain, Davi Savietto, Téo Cochou, Manon Fetiveau, Stéphanie Drusch, Floriane Derbez, Valérie Fillon

### ► To cite this version:

Morgane Genin, Avelyne S Villain, Davi Savietto, Téo Cochou, Manon Fetiveau, et al.. Effect of the presence of apple trees on the behaviour of growing rabbits bred outdoors. SFECA, May 2024, Albi (81), France. 2024. hal-04639112

**HAL Id: hal-04639112**

**<https://hal.inrae.fr/hal-04639112>**

Submitted on 8 Jul 2024

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



# Effect of the presence of apple trees on the behaviour of growing rabbits bred outdoors

Morgane GENIN, Avelyne S. VILLAIN, Davi SAVIETTO, Téo COCHOU, Manon FETIVEAU, Stéphanie DRUSCH, Floriane DERBEZ, Valérie FILLON

## Why?

- In France about 90% of farm rabbits are housed indoors in wired cages with **no enrichment** or access to natural light. They are also exclusively fed with pellets [1].
- Impact rabbits ability to express behaviours specific to their species [2]
- Impair their welfare** [3] and [4].
- Designing an innovative Agroecological system [5] combining rabbits and apple orchards.

**Could apple trees enrich their living environment and secure rabbits?**

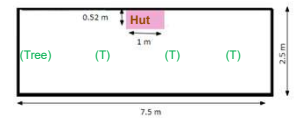
## How?



Apple Orchard



Grass Land



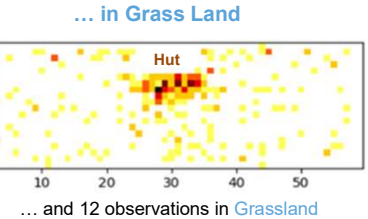
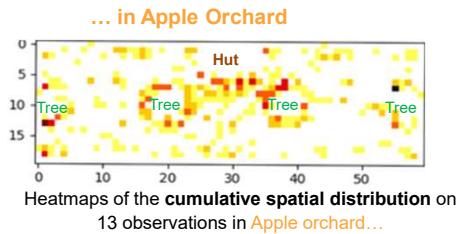
- Spatial distribution: Observation of 72 rabbits per modality
- Behaviours quantification: Observation of ~1h of video in 8 parks
- Time budget: Observation of 2 min of video each 8 min during ~1h in 8 parks

- 24 mobile pens (12 per modality)
- 1 pen: rigid panels (~ 18.75 m<sup>2</sup>)
- 144 young crossbreed rabbits: 6 per pen, both sexes



## Rabbits' behaviours...

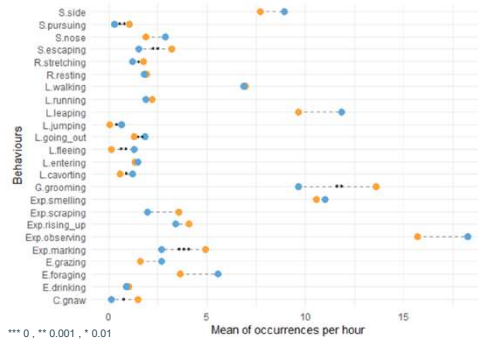
Spatial Distribution



Ethogram



Behaviours significantly more expressed:  
Grooming  
Pursuing/escaping a congener  
Marking  
Gnawing

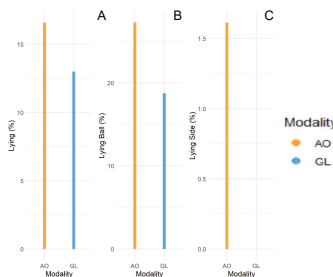


Behaviours significantly more expressed:  
Fleeing  
Jumping  
Cavorting  
Frequently going in and out

Time Budget



Rabbit lying on the side  
Only observed when rabbits feel safe



Rabbits lying on the side not observed

## Take home message

- Outdoor** breeding restore natural rabbits' behaviours
- Presence of trees increases the occupation of space by rabbits
- Rabbits have **affinity for trees**
- Trees promote **exploration** and amplify **deep resting behaviours**
- Trees seem to **decrease alert behaviours**

**Apple trees provide a spatial enrichment that confers protection and improve the welfare of rabbits raised outdoors**

## References & Acknowledgements

- [1] France Agrimer, 2024
- [2] Delanoue *et al.*, 2018
- [3] ANSES, 2018
- [4] EFSA Panel on Animal Health and Welfare, 2020
- [5] Savietto *et al.*, 2023

Financial support: INRAE METABIO (LAPOESIE project)  
We would like to thank all the rabbits we work with and Le GRAAL, Ethosph R and White Rabbit for the rehoming of these rabbits.