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# Horses living in an enriched environment have better welfare, stronger relationships with humans and show less fear



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# Domestic living conditions



Concentrated food



Restricted space



Social isolation



Behavioural issues



**SOLUTION**



**Enrichment ?**

- Change in animals' management
- Physical enrichment (e.g. object)
- New feeding systems



In the litterature :

→ 1 type of enrichment tested on 1 or 2 parameters

→ **Limited vision of welfare**

**OUR OBJECTIVE** : set up a **multi-enrichment program**

→ Strong effect on **welfare**

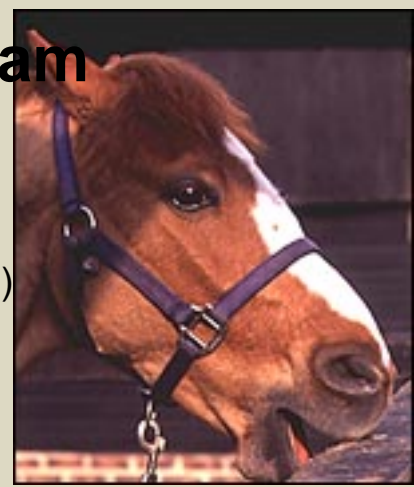
→ Other parameters:

**Temperament and animal-human relationships**

→ That could be applied on the field



# HORSE = appropriate model to study such program



## → Welfare issues

Up to 35 % of horses exhibit stereotypies (Waters et al. 2002)

→ **Defensive behaviours** → source of accidents

→ Economical loss

## Methods:

**19 yearlings (welsh ponies)**



« **Standard** » (N=9)

Usual equine housing practices

*i.e. Individual boxes, concentrated food*

« **Enriched** » (N=10)

Multiple forms of enrichment

# Methods

**Feeding enrichment**



**Sensory stimulations**



Enrichment  
program

**Housing & social enrichment**

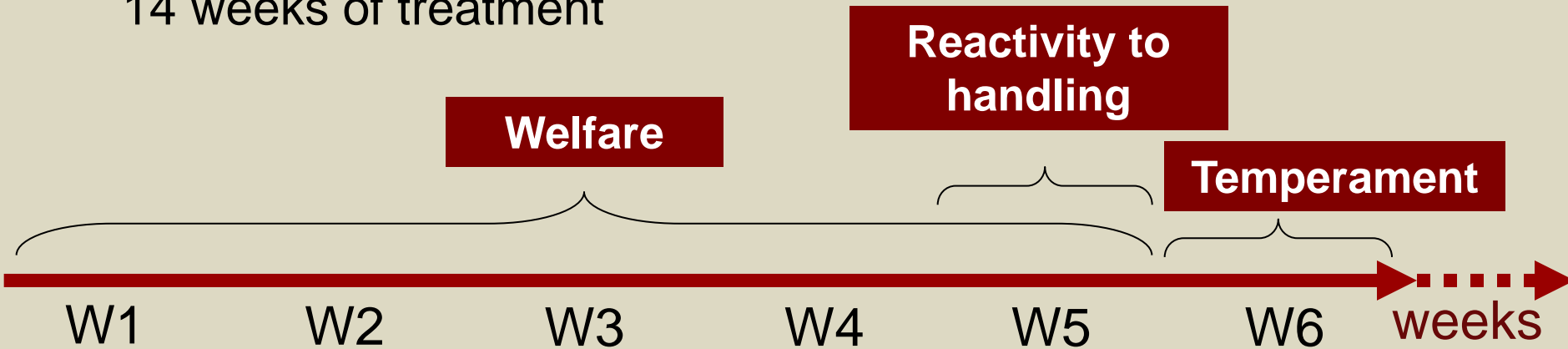


**Novelty**



# Time-line

14 weeks of treatment



## Welfare assessment (in home box) Temperament : Reactivity to handling

- Scan sampling → every 5 min, 2h/day any time to put a halter  
→ Home box: necessary dimensions:
  - Welfare indicators: alert, abnormal behaviours, ears backward  
→ Box-paddock trip: defensive & flight behaviours
- Series of tests (30 min / horse)
- \* fearfulness
  - \* reactivity to humans
  - \* sensory sensitivity
  - \* locomotor activity
  - \* gregariousness

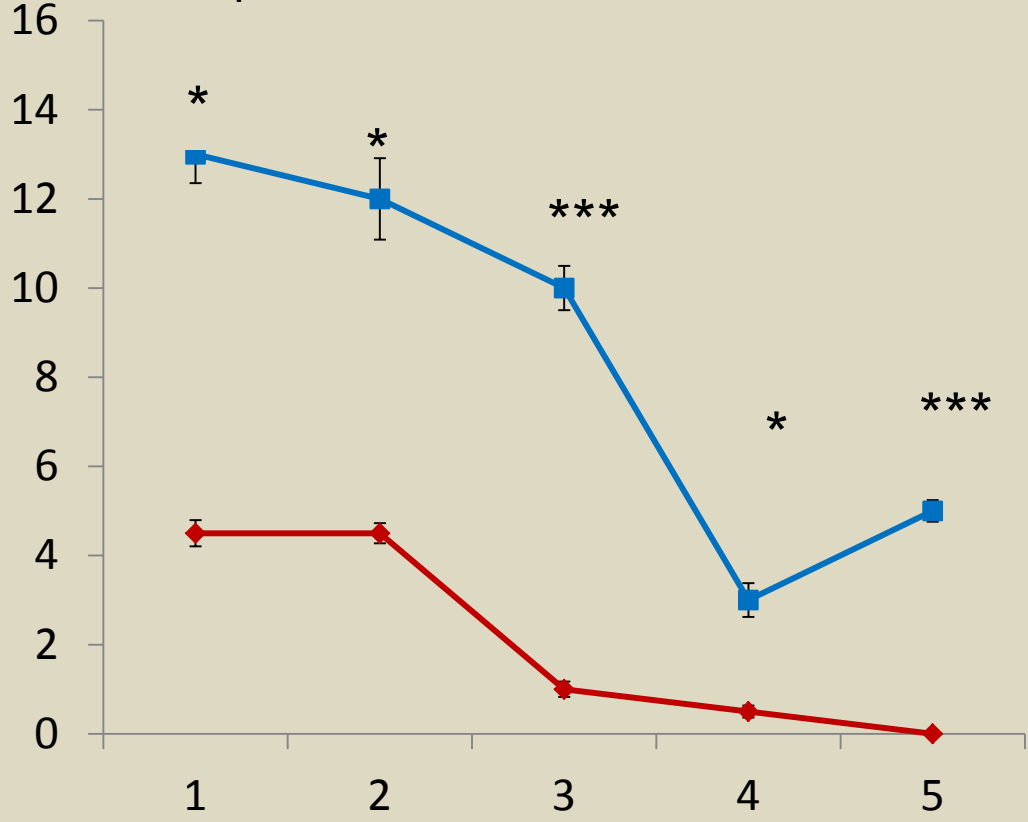
# Behaviours in home box

Behaviour	W1	W2	W3	W4	W5

**Enrich**  
**< Stand**

**Enrich**  
**> Stand**

Number of alert postures



◆ Enriched  
■ Standard

Weeks





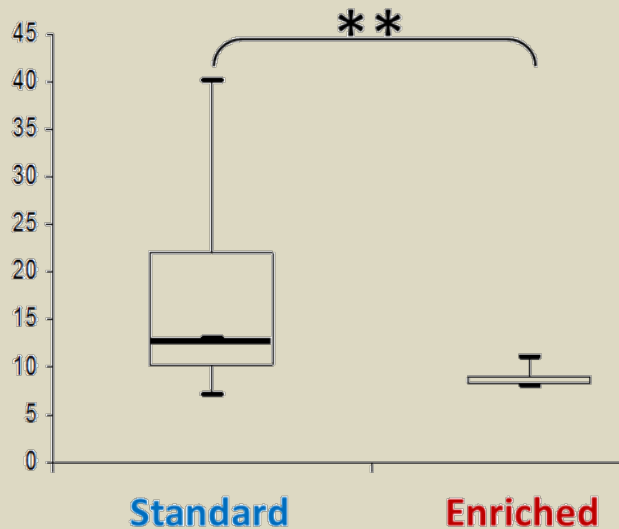
# Reactivity to handling

- Necessary time to put the halter
- Defensive / flight behaviours

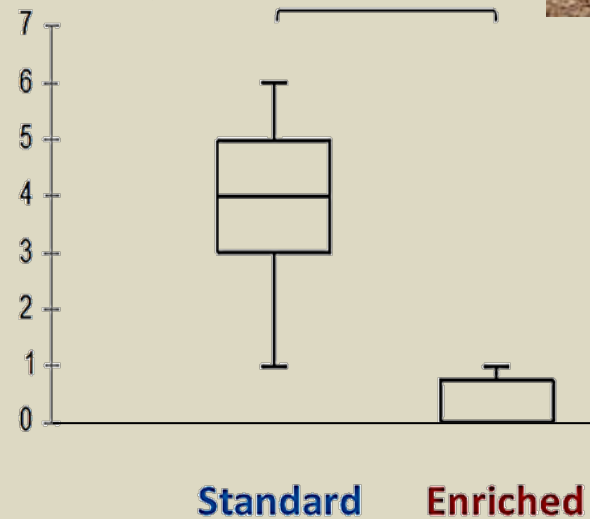
**E < S**



Latency (s)



Number of defense / flight



⇒ **Enrichment** → makes handling easier and safer

# Temperament

Test	Variable	Difference	Dimension

**+ 2 months  
Differences  
remain**

**→ Enrichment → Influences temperament**

*Reduces fearfulness, sensitivity and increases attraction toward humans*

**Long-term effect on  
fearfulness**

# Multi-enrichment program



Positive effects on welfare, temperament and safety

## WHY ?

### *1) Welfare ?*

- Changes in **time-budget**
  - + sleep and feed/forage
- Opportunity to exhibit **natural behaviours**
  - - frustration, stress

### *2) Temperament and reactivity to handling ?*

- **Various and novel stimulations**
  - + coping abilities when facing challenges

# Application



- Tested in a stud-farm with thoroughbred horses
- Set up in collaboration with stud farm's staff
- Similar effect:
  - stress
  - dangerous behaviours



# Conclusion

- Several weeks of **combined enrichment**



**strong** and **long-term** impact on young horses

→ *Positive consequences for both horses and humans*

→ *Necessity to reconsider usual practices*

- **Can be adapted and applied successfully  
in practice**

## participants

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**Many thanks for your attention**



**Questions ?**







# Methods

- 19 yearlings (welsh ponies)
- Experimental station of INRA Val de Loire, Nouzilly, France



- « **Standard** » (N=9) = usual housing
  - Small individual boxes
  - Wood shaving bedding
  - Restricted number of strolls always individually
  - Concentrated and undiversified food
- « **Enriched** » (N=10) = multiple forms of enrichment
  - Large individual boxes
  - Straw bedding

# Temperament

Test	Variable	Difference	Dimension

**+ 2 months  
Differences  
remain**

**→ Enrichment → Influences temperament scores**

*Reduces fearfulness, sensitivity and increases attraction toward humans*

*No effect on reactivity to social isolation*

**Long-term effect on  
fearfulness**