

What is play behaviour?

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1

Functions of play behaviour

Physical training of skeletal muscles

Self assessment of physical and social abilities

Training of flexible responses to unexpected events



Spinka et al (2001) Quarterly Review of Biology, 76: 141–168.

2

2

How do we recognise play behaviour?

Burghardt's criteria for classifying a behavior as play help distinguish play from other behaviors

Burghardt, G. M. (2005). The genesis of animal play: Testing the limits. MIT Press.



3

3

How do we recognise play behaviour?

Play behaviour include elements of “functional” behaviour such as flight, fight, or predatory behaviour

But in play these elements are

- Exaggerated
- Repeated
- More variable
- Self handicapping
- Appear purposeless



Burghardt, G. M. (2005). The genesis of animal play: Testing the limits. MIT Press.

4

4

How do we recognise play behaviour?

Animals play when safe – in a relaxed atmosphere

Animals seek out opportunity to play and encourage others to play

Play is

- spontaneous
- voluntary
- intentional
- rewarding
- done for its 'own sake'



Burghardt, G. M. (2005). The genesis of animal play: Testing the limits. MIT Press.

5

5

Is play behaviour always easy to recognise?

Play fighting may develop into serious behaviour

Play markers

- easy to distinguish
- communicate playful mood
- "pure" play



6

6

Motivation for play

Internal

Physiological needs are met
Good health

External

Social partners
Space
Novelty (exciting, but not scaring)



7

7

Welfare threats reduce play behaviour

Ill health
Poor weather
Scarcity of food



8

8

Motivation for play behaviour and welfare

Juveniles are motivated to play when physiological needs are met and they are in good health

⇒ The absence of motivation to play indicates **poor** welfare in juveniles

The performance of play is reinforcing, exciting, pleasurable

⇒ The presence of play indicates **good** welfare and **positive** emotions



9

9

Play behaviour in calves

Locomotor play behaviour

galloping, bucks, buck-kicks, turns and body twists
individual or in parallel with peers

Social play behaviour

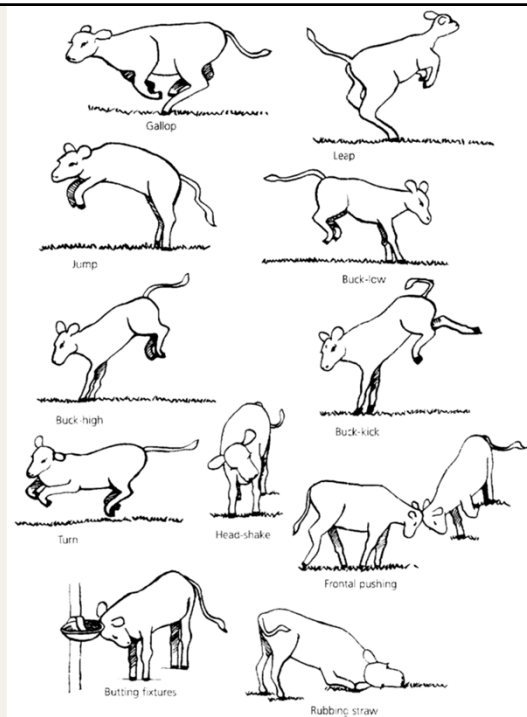
play fighting or head rotations

Object play behaviour

rubbing ground, butting objects



Jensen et al. 1998 Appl. Anim. Behav. Sci. 56: 97-108



10

Validating play as indicator of positive emotions

Locomotor play in dairy calves occurs more in preferred and valued environments

Calves prefer

Environment enrichment e.g. brushes and hay nets

Social contact to familiar peers

Large space to small space

Light to dim illumination

Non-slip surfaces to unstable surfaces

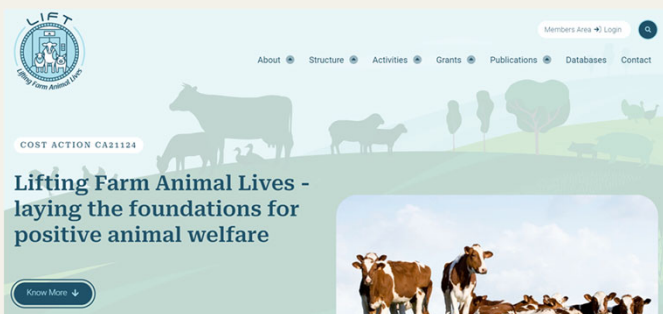


11

Positive animal welfare

The animal flourishing through the experience of predominantly positive mental states and the development of competence and resilience

Rault et al. 2025. A consensus on the definition of positive animal welfare. Biology Letters. <https://doi.org/10.1098/rsbl.2024.0382>



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12

Positive animal welfare – a different perspective

EFSA Scientific opinion on Welfare of calves



Space allowance

Calves need to have enough space to be able to rest in a relaxed position - at least 3m² per animal.

To be able to perform full play behaviour they need 20 m².



13

13

To remember

- Play behaviour resembles functional behavior, but during play the movements are exaggerated, repeated and variable, and the behaviour appears functionless
- Animals seek opportunity to play and play behaviour is associated with positive emotions
- Young animal are motivated to play when they are healthy and when their needs for food, comfort and safety are meet.
- However, even if animals are motivated to play, they may be prevented from doing so by lack of space and play partners



14

14

Questions

1

What type of play behaviour is most common in calves?
(1: Social play
2: Locomotor play
3: Object play
4: straw play)

2

Which type of play behaviour is play between calf and dam?

3

Describe in one word a factor that you think is important for calves' *motivation* to play?

4

Describe in one word a factor that you think is important for calves' *possibilities* to play?



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15

15

Thank you for your attention



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16