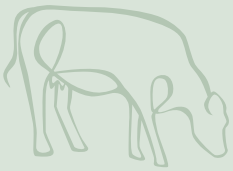




**Best practice farms have confident heifers who express a range of positive natural behaviours by providing an enriched indoor & outdoor environment with kind, animal-centred human-animal interactions.**



### Why is this important?

Environmental enrichments (social, nutritional, occupational, sensory and physical) promote cognitive and behavioural health in heifers. This supports stress resilience and facilitates long-term adaptation to changing farm conditions, transport, and to life in a herd. Attentive care and positive interactions with farm staff enhances welfare, production performance and favour safe and easy handling.



#### Good practice

- ✓ Heifers should have the opportunity to graze outdoors as this encourages natural behaviours which help to reduce competition and the effects of lack of stimulation as well as increasing herd synchronicity (where overall the group appear to be calm, expressing a range of positive behaviours in the absence of negative behaviours).
- ✓ To prevent both over and under eating by individual animals as a result of resource guarding behaviours, it is important that feeding stations provide adequate feed space, allowing all of the heifers to eat comfortably at the same time. Heifers are herd animals, so the entire group will want feed simultaneously. Failure to provide sufficient space to allow the group to feed together will create unnecessary stress.

See the  **Heifer Nutrition factsheet** for more information



#### Best practice

- ★ **Best practice** farms allow heifers to have daily access to pasture, except in extreme weather. The time spent on pasture should be determined by the weather, daylight hours available and ideally individual preference by the heifers, i.e. a choice based system. To ensure a high plane of nutrition for heifers managed at pasture, best practice is to assess grazing residuals daily. Heifers should be moved to a fresh allocation of pasture based on meeting target post-grazing heights.
- ★ **Best practice** farms allow all heifers to choose to eat roughage at the same time. The space allowance is crucial to ensure that all of the heifers have access to their daily feed allocation without compromising their time budget (i.e., decreasing lying time).

See the  **Heifer Nutrition factsheet** for more information





### Good practice

- ✓ Heifers should be grouped separately from the mature herd to reduce the impact of resource guarding by bigger, more experienced animals. Groups should be kept stable to prevent conflict when new animals are introduced.
- ✓ Heifer accommodation (indoors or outside) should support positive social interactions whilst giving adequate space for subordinate individuals to keep a distance from more dominant ones.
- ✓ Heifers should not be permanently housed in tie-stalls because of the continuous and severe restriction of movement and social behaviour, difficulties of lying down, rising, and finding comfortable resting postures. No new housing systems should rely on tie-stalls, although, it is still considered acceptable for limited time periods for events such as provision of veterinary treatment. Tie-stalls should be phased out. Where tethering is currently unavoidable, it is important that the tether is long enough to allow comfortable rising and lying down, observation and handling and the heifers need regular access to loafing areas and/or pasture, to reduce the impact of restricted movement, resting and social behaviours.
- ✓ Loading of live animals should consider both biosecurity and stress reduction for the heifers.



### Best practice

- ★ **Best practice** farms habituate their heifers to the calving area during the final weeks of their pregnancy. This allows them to become familiar with the new environment and provides an opportunity for dietary adjustments to be made based on BCS/ weight. Heifers are accessing a new environment, with a different arrangement for provision of food and water and whilst they adjust, stress levels might increase whilst food intake declines. They are also at higher risk of injury because they are smaller and inexperienced, so managing them on their own improves their safety and physical health.
- ★ **Best practice** farms provide their heifers with daily access to well-managed pasture (i.e. well-drained, provision of shelter and/or shade) from weaning until at least 3 weeks before calving except in extreme weather. This offers the opportunity to walk/ run/ play freely on varying surfaces, providing exercise, improved muscle and foot condition and enhanced immunity to strongyle parasites, as well as mental wellbeing. When permanently accommodated outdoors, sufficient shelter and comfortable lying areas should be provided.

See the  **Heifer Environment factsheet** for more information



### Good practice

- ✓ Management of heifers can involve changes to group composition, environment, diet and use of interventions (vaccinations, examinations etc.). These changes can challenge the immune system of young animals making them more susceptible to disease. To minimise the effects of this, positive behaviours should be encouraged (play, exploration and positive social interactions), group composition should be kept stable, the environment should be comfortable, safe and clean and diets tailor made, balanced and only gradually adapted to allow time for rumen stabilisation.

See the  **Heifer Reproduction** and  **Heifer Health factsheets** for more information



### Best practice

- ★ **Best practice** farms make every effort to ensure individual heifers have adequate time resting in clean and dry conditions, that stressful interactions with people or other animals are avoided and that if signs of ill health or changes in demeanour are detected, interventions are both timely and effective. Stress increases the risk of disease being exacerbated (e.g. sub-clinical mastitis becoming more severe).

See the  **Heifer Reproduction** and  **Heifer Health factsheets** for more information





### Good practice

- ✓ Heifers should have access to diets that fulfil their nutritional requirements, but also satisfy their behavioural needs, with sufficient forage to encourage rumination.
- ✓ Feeding times should be linked to the heifer's activities. Increasing the number of meals per day stimulates animals to exercise and interact socially, promoting positive feelings.
- ✓ To prevent both over and under eating by individual animals as a result of resource guarding behaviours, it is important that feeding stations provide adequate feed space, allowing all of the heifers to eat comfortably at the same time. Heifers are herd animals, so the entire group want feed simultaneously. Failure to provide sufficient space to allow the group to feed together will create unnecessary stress.
- ✓ Group composition should be kept as stable as possible, to minimise the risk of conflict and resource guarding. If mixing groups of heifers, best to do so in an outdoor spacious environment, reducing the risk of injury due to fighting, falling or slipping.
- ✓ Adopt multiple strategies to minimise resource guarding and the effects of competition at feeding stations (e.g. increase feeding frequency, use physical barriers, increase the quantity of feed offered, and make sure there is enough space at feeding stations, e.g. >70cm or one head lock per animal).
- ✓ Heifer accommodation must provide opportunities for social, mental and physical enrichment which will help to reduce development of problematic behaviours (e.g. resource guarding or stereotypies). If there is cross-sucking between two heifers, they may be separated or offered alternative, more appropriate, substrates to suckle (delivering milk through artificial teats with slow flow and/ or provide dry teats). Cross suckling is a re-directed behaviour, expressing the needs of the animal are not properly fulfilled. Mother bonded rearing is best to prevent cross-suckling and other re-directed behaviour.
- ✓ Heifers should have access to an outdoor environment, with proper sheltering and resources, to significantly improve both welfare and performance.
- ✓ Heifers should be able to move freely (loose-housing systems) indoors or outdoors, and express their socially motivated behaviours, such as rubbing, head butting, licking and mounting as part of their natural oestrus behaviours.
- ✓ In cubicle housing systems, flooring should not be slippery to allow postures associated with self-grooming to be adopted. Deep litter lying areas should be used to avoid swollen joints due to hard lying surfaces. A lying space ratio of more than one cubicle per heifer should be given on all farms to allow all animals to lie at the same time. Comfortable and spacious lying areas are also important to promote rumination.
- ✓ Behavioural management of groups of heifers should be practised to ensure they remain calm (as far as is feasible) when handled or moved between areas. The following stressful experiences should be minimised to reduce the risks of injury or resultant lameness: resource guarding, crowding of animals in a confined area and standing for extended periods, without the opportunity to lie down or rest. If mixing of groups is unavoidable and a new heifer or heifers are added to an otherwise stable group, it is better to manage this in a large, open area as opposed to a confined space, whether indoors or outside. Provision of space will help reduce conflict and also the risk of injury from fighting or slips and falls if the animals are startled or trying to run away.
- ✓ Positive human- animal interactions (such as stroking by humans) should be practised routinely as this will help to minimise fearful responses to handling and improve behaviour in the milking parlour.
- ✓ Animals should be handled gently to avoid unnecessary stress during routine management practices (e.g. dosing, restraint for AI or pregnancy diagnosis) and this will help reduce development of problematic behaviours (avoidance, flinching or kicking) in the future, around calving or during milking.
- ✓ Heifers should be trained using positive reinforcement to cope with common farm practices such as moving and loading.





- ✓ Feeding time provides a good opportunity for encouraging healthy human- animal interactions by using associative learning- presence of humans equates to access to favoured food stuffs. For animals raised on pasture, make sure that they are close by and observing you when you offer or add the food stuff to the environment. These interactions must be consistently positive and occur on a regular basis to have a positive cumulative effect.
- ✓ Heifers should be introduced to the group of lactating cows for 2-3 weeks during the 3-6 week period prior to calving. They can then be habituated to the milking parlour using positive reinforcement.
- ✓ Changes in behaviour can indicate a response to stress, illness or injury. Training farm personnel to observe and interpret these changes in behaviour is important to ensure rapid identification and response to problems.
- ✓ Farm personnel should ensure they respect the physiological needs of the heifers and their ability to cope with their environment.
- ✓ Heifers should be managed to optimise easy observation and recording of oestrus behaviours (clear mucous discharges, red swollen vulva, mounting other heifers, agitation and dirty flanks). Moving animals may make oestrus behaviours easier to observe. 21-day records should be available for all cycling heifers.
- ✓ Observe the heifer group to ensure positive behaviours are regularly identified: resting and rumination, play, self- grooming and allo- grooming (affiliative behaviour between cows) will help gauge the mental wellbeing of the group.
- ✓ Observe the heifer group to identify problematic behaviours will help guide corrective measures. Problematic behaviours include resource guarding, startling or rushing behaviours when approached by humans or when the group is being moved, repetitive behaviours, excessive sucking or biting of fixtures, isolation from the group.
- ✓ Ensure adequate space and bedding to allow heifers to express normal peri- parturient (pre and post calving) behaviours. This is particularly important for heifers as novice mothers, to maximise the benefits to their calves and reduce stress for the heifers. Soft bedding in a comfortable, private calving box or pen, that has visual contact with the heifer group should be provided.
- ✓ After calving, allow heifers to interact with their calf and exhibit normal maternal behaviours (examining, licking and nuzzling their calf). Intervention is required if problematic behaviours are noticed (for example, preventing the calf access to feed). The exception is where the risk of disease is such that heifer and calf must be separated immediately.



### Best practice

- ★ **Best practice** farms use food to enrich the heifers' environment, providing a wide variety of enjoyable food types, perceived to be rewarding by the animals.
- ★ **Best practice** farms encourage positive human-animal interactions during feeding. By using associative learning, the presence of humans equates to accessing favoured food stuffs. For animals raised on pasture, make sure that they are close by and observing you when you offer or add the food stuff to the environment. These interactions must be consistently positive and occur on a regular basis to have a positive cumulative effect.
- ★ **Best practice** farms provide brushes in all loose-housing systems. The number and positioning of the brushes will be dependent on herd numbers and the environment they have access to, both indoors and outside.
- ★ **Best practice** farms offer heifers a choice between different environment types (e.g. pasture/ outdoor and indoor housing) to improve animal welfare, health and production.
- ★ **Best practice** farms provide a variety of enrichments (olfactory, visual, tactile, social) to encourage a range of healthy behaviours, which promote good health and welfare of the herd.





### Best practice

- ★ **Best practice** farms maintain and replenish enrichments to add complexity and novelty to the environment and encourage continued interactions with them by the heifers.
- ★ **Best practice** farms promote positive human-animal relationships by increasing opportunities of positive interactions between farm handlers and heifers. This might include calm and gentle handling, touching, petting, quietly talking or using associative learning with positive rewards (i.e. food or strokes). Staff should receive ongoing training in the importance of positive human-animal interactions.
- ★ **Best practice** farms avoid negative interactions with animals by ensuring staff are properly trained, facilities and equipment are appropriate for use and well maintained and that adequate time is allocated for moving animals or any other planned interventions (e.g. dosing, foot care, pregnancy testing, scanning etc.).
- ★ **Best practice** farms move heifers at their own pace with positive encouragement, and where possible, without the use of vehicles, dogs, loud noise and force.
- ★ **Best practice** farms are proactive in planning and preparation of heifers (through gentle interactions, familiarisation with the environment and equipment, using positive reinforcement training) to cope with stressful processes, such as foot care or medical interventions.
- ★ **Best practice** farms move heifers to the calving area in stable groups (minimum of two) to ensure ongoing social support in a novel environment.
- ★ **Best practice** farms observe and document both positive and negative behaviours of the group and individual heifers (with or without the aid of sensors and camera equipment). This will help identify potential problems, prompt intervention and assist with future decision-making.
- ★ **Best practice** farms actively evaluate how precision livestock farming for behaviour monitoring (e.g. sensors, bolus, image or sound based) can help gather data on individual and herd health (e.g. health, reproductive data, food intake, rumination time etc.). This data could be useful to guide environmental changes that improve the conditions for the heifers all year around, reducing stress and improving health, but should be considered an adjunct as opposed to an alternative to well-trained farm personnel.



# Summary



## Farm

Considerate grouping and management of heifers within the herd will promote health and welfare, thus improving performance on farm and reducing potential losses.



## Heifers

Provision of a positive, enriched environment will help optimise cognitive development and heifer welfare. This will enhance resilience and their adaptation to future life experiences on the farm and if transported.



## Handler

Providing attentive care and regular positive interactions with heifers will make working conditions safe and more efficient in terms of time and technique.

**Take pride in all of your farm's good and best practices towards animal welfare!**

### Additional resources



Care4Dairy.eu