

# Summary: Welfare of the Dairy Calf

## The Problem

Dairy calves are susceptible to a range of serious welfare issues. These include poor health, social deprivation, abnormal behaviour and stressful practices; which arise from the environments and procedures they experience.

## The Solution

The following key features must be addressed to improve dairy calf welfare:

### Health Issues



The most common health problems in calves are intestinal and respiratory diseases. Calves require hygienic housing with plenty of space, deep bedding, natural light, ventilation, drainage, shelter and a separate feeding area. Measures to prevent disease include avoiding purchasing unhealthy calves from other farms, vaccination and separating sick animals from the group.

### Group Housing

Veal crates are banned in the EU, but calves are permitted to be housed individually until eight weeks, with contact through neighbouring pens. Grouping from birth can provide multiple benefits by allowing social contact, providing more space for play and other activity, improving social skills, reducing fearfulness and improving their ability to cope with challenges. Grouped calves also begin to eat solid feed earlier and gain weight faster, which improves performance. Keeping calves in stable peer groups of 3-8 is recommended, whilst housing in pairs is a practical intermediate step for producers moving to group housing.



### Feeding Competition



Feeding competition is a concern in group housing, as some calves may get a higher intake than others, which reduces performance. Automatic feeders, which recognise individuals by an ear tag to deliver a feed portion, are useful to prevent competition, provided all calves can get access. They can be used to monitor health by recording temperature or concentrate intake, though manual checks remain important. Using full length feeding barriers prevents calves switching teats and providing a high milk allowance also reduces competition.

### Preventing Hunger and Providing Fibre



Artificially-reared dairy calves are typically fed 4-6 of litres milk replacer a day. This is insufficient to prevent hunger, as calves can consume 8.5 litres and are often given insufficient fibre. In white veal calves, iron deficiency, anaemia and enteric disease are serious welfare problems caused by liquid feeding. Ideally calves should be fed milk *ad libitum*, but at least enough to feel full, with fresh water available. Milk replacer should be highly nutritious and dispensed hygienically, allowing calves to extend their neck when drinking. Calves require fibre *ad libitum* from two weeks of age.

### Cross Sucking

Cross sucking is an abnormal behaviour when calves' motivation to suckle is redirected to other calves or their pen. It can cause injury, spread disease and indicates poor welfare. Calves naturally suckle several times a day, but manual feeding can reduce feeding to one minute per day. Cross sucking can be reduced by using artificial teats or a bucket with a floating teat, a smaller teat to slow milk flow, automatic feeders or self-locking stalls, providing a more stimulating environment, and feeding enough to ensure calves are not hungry. Cross sucking also varies between individuals.

### Colostrum

Newborn calves have poorly developed immune systems and rely on colostrum (nutritious first milk) for passive immunity before their immunity develops. Colostrum absorption ends 24 hours after birth, therefore calves must start to drink it soon after birth (and all within 6-8 hours). Ideally colostrum should come from the dam, and if supplemented should be 10% of the calf's birth weight with the right balance of fat, protein and vitamins. Testing calves should be routine to ensure sufficient absorption.



### Weaning

Calves are typically weaned from milk to solid food at 8-12 weeks. Introducing solid feed too early reduces energy, but compromises welfare if left too late. Calves can digest some fibrous solid feed at 2 weeks and fibrous feed should comprise most of their diet by 6-8 weeks. Weaning should balance reducing milk intake whilst gradually increasing solid feed, according to the individual calf's ability to eat.

### Transport



Transport is stressful to young calves as they are poorly adapted, with underdeveloped immune and stress responses, and it leads to high rates of mortality. Calves are susceptible to heat and cold stress, leg bruising and often succumb to disease. After one hour of travel, calves have a lower body weight caused by feed and water deprivation and excretion; which leads to dehydration and low blood glucose; and which is further exacerbated with journey time. Rest stops are ineffective in preventing weight loss and cause additional stress. Transport is stressful at any age and should be avoided, or kept to a minimal duration.