

Welfare Issues in Dairy Calves

Physical wellbeing

Issue	Problem	Solution
Healthy male calf disposal	Loss of life and future positive experiences	Keep calf with dam until natural weaning (restricted suckling); raise dual purpose for beef; use sexed semen for replacement herd
Immune system and overall health	Inadequate colostrum provision	Keep calf with dam or ensure sufficient nutritive colostrum is provided (4L two feeds within 6 hours)
	Disease risk e.g. Scours, Johnes disease, Pneumonia	Provide a hygienic, well ventilated environment with clean bedding
Diet	Lack of fibre and iron, hunger	Provide <i>ad libitum</i> milk or milk replacer to combat hunger, feed roughage <i>ad libitum</i> from 2 weeks old for sufficient iron (min. 50mg/kg)
Flooring	Fully-slatted floors lead to injuries & lameness	Provide deep, clean bedding e.g. straw
Transport	Transport at a young age, often over long distances, affects calves more adversely than adults and compromises their immune system	Minimise transport distance (e.g. 2 hours), avoid transporting at a young age wherever possible. No live exports/ livestock markets

Mental wellbeing

Issue	Problem	Solution
Physical restriction	Tethering	Develop legislation to prohibit in EU and beyond
	Inadequate space allowance	Calculate by following the allometric curve
Maternal separation, Social isolation	Lack of maternal bonding and social isolation in individual housing causes stress and inhibits development	Rear calves with their dam or in groups from birth. Groups should be small and matched for age and size to avoid feeding competition
Comfort	Fully slatted flooring with limited or no access to bedding	Use solid flooring, provide deep clean straw
Mutilations (cause pain, stress)	Disbudding, excess teat removal, castration	Use polled breeds. Avoid routine mutilations. When necessary use anaesthesia, analgesia, performed by vet & low-stress restraint design
Hunger	Feeding restricted meals and concentrates with a short eating duration leads to hunger	Feed milk or milk replacer in several meals and <i>ad libitum</i> where possible. Provide a high fibre diet with <i>ad libitum</i> roughage for satiety and to allow rumen development

Natural behaviour

Issue	Problem	Solution
Restriction of species- specific behaviours	Lack of maternal bond	Ideally keep calf with dam until natural weaning (restricted milking) or use nurse cow
	Lack of play	Provide social contact with other calves, provide ample space and novel enrichment items
	Lack of social behaviour	Group house with other calves
Abnormal behaviours	Cross sucking, e.g. to other calves' navels, causes injuries. Caused by frustrated motivation of sucking behaviour	Keep calf with dam until natural weaning. Use an artificial teat feeder instead of buckets. Provide oral enrichment to reduce motivation for sucking, e.g. a dry rubber teat
	Hair swallowing	Provide more roughage, visual stimulation and space