

# Checklist: Successful calf rearing

February 2010

This checklist is designed to overview your calf rearing. It is separated in focal points. You are able to declare your strength and weak points of your farm. Please calculate the percentage of the positive and negative ratings. Additionally you can add your own factors into the calculations. Therefore space is left at the end of the different parts.

**Tip: Give this checklist also to consultants, veterinarians and colleagues, to prohibit subjective ratings.**

The list doesn't claim completeness. The assessment criteria is liable to common academic research, experience or subjective evaluation of the author. The author, and Holm & Laue, aren't responsible for probably wrong conclusion based on this list.

positive rating

negative rating

## Introducing data - How good is the calf raising?

Mortality until 48 hours after birth	< 3 %		3 - 5 %		> 5 %	
Mortality until 3 months	< 3 %		3 - 5 %		> 5 %	
Average birthweight (Holstein-frisian)	< 35 kg		35 - 45 kg		> 45 kg	
Weight 3 mon. of age (Holstein-frisian)	> 110 kg		90 - 110 kg		< 90 kg	
MR consumption per calf in the period of raising	< 25 kg		25 - 35 kg		> 35 kg	
Age of the first insemination	< 16 mon		> 16 mon			
Weight first insemination	> 380 kg		< 380 kg			
Age of first calving	24-25 mon.		26-28 mon.		>28 mon.	

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

## Regulation European Animal protection law

Tying of calves	< 1 hour		> 1 hour		permanent	
Required space in individual handling (2. week) min. 120 x 80 cm x 80 cm height	more		less			
Required space in individual handling (2. - 8. week) min. 160 x 100 cm x 80 cm height	more		less			
Calves can see each other and have physical contact in individual handling	yes		no			
Required space group handling until 150 kg	> 1,5 m <sup>2</sup>		< 1,5 m <sup>2</sup>			
Required space group handling 150 - 220 kg	> 1,7 m <sup>2</sup>		< 1,7 m <sup>2</sup>			
Required space group handling > 220 kg	> 1,8 m <sup>2</sup>		< 1,8 m <sup>2</sup>			
Total space per lot 2. - 8. LW	> 4,5 m <sup>2</sup>		< 4,5 m <sup>2</sup>			
Total space per lot > 8. LW	> 6 m <sup>2</sup>		< 6 m <sup>2</sup>			
Slitting: interspace until 6 mon	< 2,5 cm		> 2,5 cm			
Slitting: surface until 6. mon	> 7 cm		< 7 cm			

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

## Dry cows, management and feeding

Body Condition Score heifers (BCS)	< 2,5		2,5 – 3,0		> 3,0	
Body Condition Score Cows (BCS)	< 3,0		3,0 - 3,5		> 3,5	
Hygiene of the management	good		middle		bad	
Hygiene of the hind legs and the pubic area of the calving cow	good		Cleaning before birth		bad	
Vitamin and mineral supply	good		middle		bad	
Vaccination of the mother (E-Coli- / Rota-Corona-vaccination), if these bacterias are part of the problem	yes				no	

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

### Extra calving box

Available	yes		no		
Space per cow	8 – 10 m <sup>2</sup>		< 8 m <sup>2</sup>		
Hygiene	good		middle		bad
Regular cleaning before the calvings	yes		no		
Lot for a group	alone		3 animals		> 5 animals
Cow can see the herd / Near to the herd	yes		no		
The box is used for sick animals	never		sometimes		often

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

### Birthmanagement

Still birth and dead calves in 48 hours after birth	< 3 %		3 – 5 %		> 5 %
Active calving help	rare		sometimes		often
Desinfection of umbilicus	yes		no		
Drying of the calf	manager		mother		no
Checklist birthmanagement for the employees	available		not available		
Housing of the calf directly after birth	individual box		alone in calving box		together with mother in calving box
Cleaning of the calf box before next filling	Cleaning and disinfection		Cleaning		new straw
Ferrite appliance after birth	yes		no		
Calf-Vital Calf rescuer within reach	yes, cleaned		yes, but not cleaned		not available

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

## Feeding colostrum

Time of the first milking after calving.	< 1 hour		1 - 3 hours		> 6 hours	
Time of colostrum application.	< 2 hours		> 4 hours		free sucking on the udder	
Quantity of colostrum	4 l		2-4 l		< 2 l	
Calf drencher is used. With knowledge of application.	Calves are always drenched with 4 l colostrum; with knowledge of application!		occasional application.		Under no circumstances calves get drenched.	
Time of the second colostrum application.	< 8 hours		> 8 hours			
Repeated application of colostrum.	> 3 days		< 3 days			
Quantity of feedings per day.	3 x per day		2 x per day		< 2 x per day	
Sufficient colostrum on stock (first milk of old cows). Frozen.	yes		no			
Hygiene of colostrum (udder cleaning; no blood in the milk).	good		medium		bad	
The quality of colostrum is measured by a colostrometer. Only good quality colostrum is used!	yes		no			
Colostrum is pasteurized.	yes		no			
Colostrum is fed with 38 °C.	yes		no			
Control of the protein amount in the serum at the age of 1-8 days ( = informes about the passagerate of the IgG`s into the blood; meassured in mg protein / l serum; edge: 55 mg/l)	> 75 % of samples > 55 mg/l		< 75 % of samples < 55 mg / l		no control of serum	

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

## Calffeeding, Milk in general

Drinking temperature	< 36 °C	38 - 40 °C	> 42 °C
	<96 F	100-104 F	>108 F
Use of a feeding plan	yes, individual for every calf	yes, equal for all animals	no
Amount of milk per feeding	< 1 l	1 - 2 l	> 2,5 l
Plan to wean the calves	individual according to bodyweight or concentrate intake	yes, equal for all animals	no
Time of weaning	6 - 8 weeks	8 - 12 weeks	>12 weeks
Period of weaning	> 2 weeks	1 - 2 weeks	< 1 week
Weightdevelopment after weaning	expeditious increase	stagnation for some days	decreasing
Access to water	free choice	rationed	
Quality of water	checked	not checked	
Method of milk feeding	Teat (Bucket or calffeeder)	Bucket without teat	trough
Feeding via buckets: Cleaning of the buckets	daily	weekly	rarely
Feeding times	calffeeder	regular times	changing times
Adaptation of feeding to winter season	increasing energy supply	no	

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%



## Behaviour of the calves while drinking

f.ex. Informationen of the calffeeder (CF)

Drinking speed	high (> 0,6l/min.)		middle (0,4 - 0,6l/min.)		low (< 0,4l/min.)	
number of aborted visits (CF)	0 - 2		3 - 5		> 6	
Percentage of calves on the alarm list (CF)	< 5 %		5 - 10 %		> 10 %	
Time of staying in the station after the completed visit (CF)	> 10 Min.		3 - 10 Min.		< 2 Min.	
Sucking of each other (mouth)	never, rarely		sometimes		often	
Sucking of each other (umbilicus)	never, rarely		sometimes		often	

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

## Calf feeding, whole milk

Quality of whole milk	measured quality		normal whole milk		waste milk	
Dilution of whole milk with water	0 - 5 %		5 - 15 %		> 15 %	
Use of add on`s	special add-on`s for whole milk		ferrite		none	
Pasteurising of whole milk	yes		no			
Cooling of whole milk (until feeding)	yes, max. 24 Std. with max. 15 °C (59 F)		one time cooling		no	
Cleaning of the storage tank	daily with detergent		without plan, sometimes		no	

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%



## Feeding of the calves, milk powder

Mixtemperature, according to the recommendation of the manufacturer (fat solubility!)	yes		no		no control	
Percentage of skim-milk	skim milk > 40 %		skim milk < 40 % or whey powder without herbal proteins		whey powder with herbal protein	
Percentage of crude fibre in milkpowder (hint of proteinsource)	< 0,1 %		> 0,1 %			
Concentration of ash in milkpowder (if no herbal sources are used, otherwise no valuation possible)	< 8 %		9 - 10 %		> 10 %	
Concentration milk powder (g/l water)	> 130 g		120 - 125 g		< 100 g	
Control of milk powder solubility while mixing	yes		sometimes		no	
MR consumption per calf in the raisingperiod	< 25 kg		25 - 35 kg		> 35 kg	

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

## Feeding of the calves; concentrate, roughage

Time when concentrate and roughage is offered	right after birth		from the 2. week		from the 4. week and later	
Quality concentrate	calf grain in pellet form		Specialproducts (cereal etc.)		concentrate for cows and bulls	

Concentrate feeding	concentrate dispenser, ad libitum		2 times a day		in trough mixed with roughage	
Watersupply	free choice		rationed			
Control concentrate intake	programmed via calffeeder		measured by hand		none	
Individual concentrate intake with 6 weeks (day)	> 1 kg		0,5 - 1 kg		< 0,5 kg	
Quality roughage I	TMR of the lactating cows		High quality hay		undefined	
Quality roughage II	well structured		chaffed finely		wet	

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

## Animal health

Deaths until 48 after birth	< 3 %		3 - 5 %		> 5 %	
Deaths until 3 Months	< 3 %		3 - 5 %		> 5 %	
Bodytemperature °C	37,7 - 38,2		38,3-38,8		> 38,9	
F	99,9-100,8		100,9-101,8		>102	
Drinking speed	high (> 0,6l/min.)		middle (0,4 - 0,6l/min.)		low (< 0,4l/min.)	
Quantity of aborted visits (CF)	0 - 2		3 - 5		> 6	
Percentage of calves on the alarm list (CF)	< 5 %		5 - 10 %		> 10 %	
Morbidity (Rate of illness)	< 10 %		10 - 20 %		> 20 %	
Diarrea	none		rarely		often/heavy	
Frequency of diarrea per affected calf			1		> 1	
Time of diarrea infection	none		0 - 3 weeks		> 3 weeks	
Colour of excrements ( 5 weeks)	brown		yellow		grey, bloody	
Consistency of excrements	hard		soft, pappy		liquid	
respiratory diseases	none		rarely		often/heavy	
Frequency of respiratory diseases per affected calf			1		> 1	
Condition of the skin, age of 10 weeks	shiny		rough		incomplete	
Defluxion of the nose	normal secretion		few dreary secretion, on one side		both sides show slimy secretion	
Eye / Ear	normal		both eyes tearing, ears hanging		ears and head hanging	
Joints	dry articulation				swollen	

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%



### Calf Management, Climate of the barn

Draught in the entrance	none		sometimes		yes	
Offer of a micro climate area	yes		no			
Ammonia smell notable (30 cm above straw bedding)	no		rarely		much	
Ammonia concentration measured; according law max. 20ppm!!!	< 4 ppm		4 - 10 ppm		> 10 ppm	
Air humidity in the bedding area	< 60 %		60 - 80 %		> 80 %	
Temperature in the bedding area (calves older than 1 week)	< - 0 °C		0 bis + 15 °C		> + 15 °C	
F	< 32 F		32-59 F		> 15 F	
Adaptation to the winter season	increasing energy supply		none			

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%



## Calf management, Raising systems

Composition bedding area	dry bedding		cubicles	slatted floor, concrete	
Barn System	Outdoor clima		Cold barn	Air conditioned barn	
Outdoor climate: 2 bedding area system (beding area in hutch and outside)	yes, both under roof		yes, partial under roof	no	
Outdoor climate: Offer mircoclimate	yes		no		
Outdoor clima: Protection against draught in the bedding area	yes, always		only in the main wind direction	no	
Raising in the first 2 weeks	individual hutches		individual boxes	group	
Frequency of littering	daily		every 2-4 days	Interval > 1 week	
Frequency of mucking out	every 2 - 3 weeks		every 4 - 5 weeks	> 6 weeks	
Quality of litter	dry and absorptive		wet	bad quality	
Physical contact, individual handling	none		rarely	often	
Pen is roofed	yes		no		
Space per animal, individual handling	> 2 m <sup>2</sup>		1,5 - 2 m <sup>2</sup>	< 1,5 m <sup>2</sup>	
Group handling, different ages in one group	< 2 weeks		2 - 4 weeks	> 4 weeks	
Group handling, Quantity of animals per group (age: up to 8 weeks)	2		3 - 15	> 20	
Group handling, quantity of animals per group (age: up to 8 weeks)	2		3 - 25	> 30	
Proportion calf : feeding pen (roughage- and concentrate, exception: concentrate dispenser)	1 : 1		1,2 : 1	> 1,5 : 1	
Required space, group handling	> 2 m <sup>2</sup>		1,5 - 2 m <sup>2</sup>	< 1,5 m <sup>2</sup>	
Slatted floor; width of slattings (up to 6 mon)	no		yes; 2,5 cm	yes; > 2,5 cm	

If feed racks are used:	Secure feed rack in V form				Self catching racks	

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**Final Ratings:**

**Introducing data - How good is the calf raising?**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Regulation European Animal protection law**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Dry cows, management and feeding**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Extra calving box**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Birthmanagement**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Feeding colostrum**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Calffeeding, Milk in general**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Behaviour of the calves while drinking**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Calf feeding, whole milk**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Feeding of the calves, milk powder**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Feeding of the calves; concentrate, roughage**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Animal health**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Calf Management, Clima of the barn**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%

**Calf management, Raising systems**

Amount of pos. Ratings	=	%
Amount of neg. Ratings	=	%