

Robot mimics dam feeding during the first days of a calf's life

Natural drinking rhythm

German company Förster Technik has developed the Calfrail calf feeding robot, to ensure precision feeding for the first few days of a calf's life. The robot imitates the natural drinking rhythm of the calf and adapts to the individual calf's needs. And the manufacturer claims that the system saves 20 days of labour per 100 calves.

text **Guy Nantier**



1 Father-and-son partnership Siegfried and Klaus Bölle run their dairy unit in Singen-Hausen, based in southern Germany. The herd has recently expanded from 50 to 200 Holstein cattle. The herd's average yield is 9,000kg of milk at 4.2% fat and 3.5% protein.

2 For the past two years milk has been fed to calves, in calf hutches, by the Förster Technik Calfrail calf feeding robot. For the group-housing phase, the unit has two calf milk dispensers. The calf feeding robot and the two calf drinking dispensers are supplied by a central mixing station.

3 The hutches are covered on both sides of the suspended robot. Hutches can also be placed in a line.

4 The calf feeding robot can feed up to 32 calves. The LED lights draw the naturally curious calves to the robot's teat. The lights also help with calf observation on darker days.

5 The calf feeding robot passes along the calf hutches six times a day. The first feed round is at 5.30am and the final one is at 8.30pm.

6 The isothermic supply hose, which links the central feeding unit to the robot, extends to maximum of 30 metres. In addition to supplying the milk, the hose also contains a return pipe for washing water. Cleaning takes place after each round of milk feeding. The supply hose also contains the system's electric cables.

7 The central mixing station can operate using milk replacer powder, fresh milk, or a combination of the two.

8 Milk preparation for individual calves takes place automatically, according to their specific growth target. The milk powder is carefully weighed out, to the nearest gramme, via an integrated weighing system.

9 Producers can easily refer to and change the settings by using a remote control system. Alert lists, with calf intakes, can be viewed on a computer screen with the remote control or via an app on a smartphone.

10 The system saves 20 days of labour per 100 calves, according to the manufacturer. The installation of the Calfrail costs around £6,100. The robot is available – and is compatible with equipment – from DeLaval, Fullwood and GEA products.



8

KA	Kalb. Nr.	S.	MOFIT	Status	A/T	Plan		Tränke		Abbruch		Bengische		Säuggeschwindigkeit		Tl.										
						Gl.	+/	Ende	Arbeits	heute	gestern	heute	gestern	heute	gestern		heute	gestern								
B	2	2				6.0		53	00.00	2.0		8.1	135	4	4	11	100	0.4	53	10						
B	9	2				2.8		7	10.49			100	2.4	100	2	19	6	25	100	0.9	163	62x	+2			
B	13	2				2.0		1	2.56			100	2.2	100	1	5	2	10	100	1.1	143	62x	+2			
B	16	2				2.8		7	22.22			23	100	23	100	2	10	6	29	8.5	81	89	123	62x	+2	
B	17	3				5.5		25	11.20	2.5		4.2	100	3	16	3	4	16	5.1	0.8	105	44x	+2			
B	19	3				1		5	00.00			100	100	100	1	4	12	100	100	100	73x	+3				
B	19	2				6.6		30	03.00	3.7	0.2	5	2.4	100		3	5	2			0.7	125	20x	+15		
B	22	2				2.0		1	00.20	0.9	1.0	50	23	100	2						1	29	0.7	95	80x	+2
B	26	2				6.5		32	11.10	2.5		-1	7.0	100	1	2	7	2	11	6		0.7	139	37x	+2	
B	27	3				1		5	00.00			100	100	100							11	100	100	73x	+3	
B	29	2				5.2		23	10.25	2.4	0.2	8	6.3	100		5	3	15			0.8	120	46x	+2		
B	32	3				2		6	06.32	2.0	0.1	2	6.1	100	4	4	20	8			0.7	132	20x	+2		
C	21	2				6.0		35	00.00	0.9	1.5	25	5.1	44	1	2					0.6	91	86	98	+19	
D	4	2				6.0		39	00.00	1.0	1.5	25	6.9	100	1	1					0.4	59	6.6	37	+20x	
D	7	2				6.0		39	09.36	2.5	2.5	41	7.9	122	1	4	2	5	1		0.6	157	8.4	94	20x	+12
D	11	2				6.0		33	00.19	2.4	4.1	60	9.4	156	2	1	3	4			0.4	112	0.4	83	20x	+18
D	15	2				6.0		33	00.00	2.5	2.5	41	5.3	72		5	2	7	3		0.8	149	0.6	120	20x	+18
D	20	2				6.0		39	07.36	1.4	3.5	59	6.5	100	1	3	3	6	2		0.7	108	0.7	110	20x	+12
D	999101	1				6.0		63	00.00	3.3	3.6	37	3.1	20	3	6	3	7			0.7	130	0.3	101	8	
B	20101	1				6.0		63	10.42	2.8	100	28	28	2	6	2	6	6			0.6	100	87	36	8	

Datum	Fag	l	i	l	%	Uman	%	m2	o2	mT	oT	kg	kg	%	kg	Fl
09.09.14	B	6.0	7.5	2.0	33	0.6	108		2	2					53.5	
10.09.14	7	6.0	7.5	2.0	27	0.7	36		5	6				53.0		
09.09.14	6	6.0	7.5	1.1	15	0.3	197		7	6				52.5		
27.08.14	5	6.0	7.5				100		5	5				52.0		
06.09.14	4	6.0	7.5	1.6	22	0.2	100		7	6				51.5		
05.09.14	3	6.0	7.5				100		6	6				51.0		
14.09.14	2	6.0	7.5				100		6	6				50.5		
13.09.14	1	6.0	7.5				100		4	4				50.0		

