



Euroopa Maaelu Arengu
Põllumajandusfond:
Euroopa investeringud
maapiirkondadesse

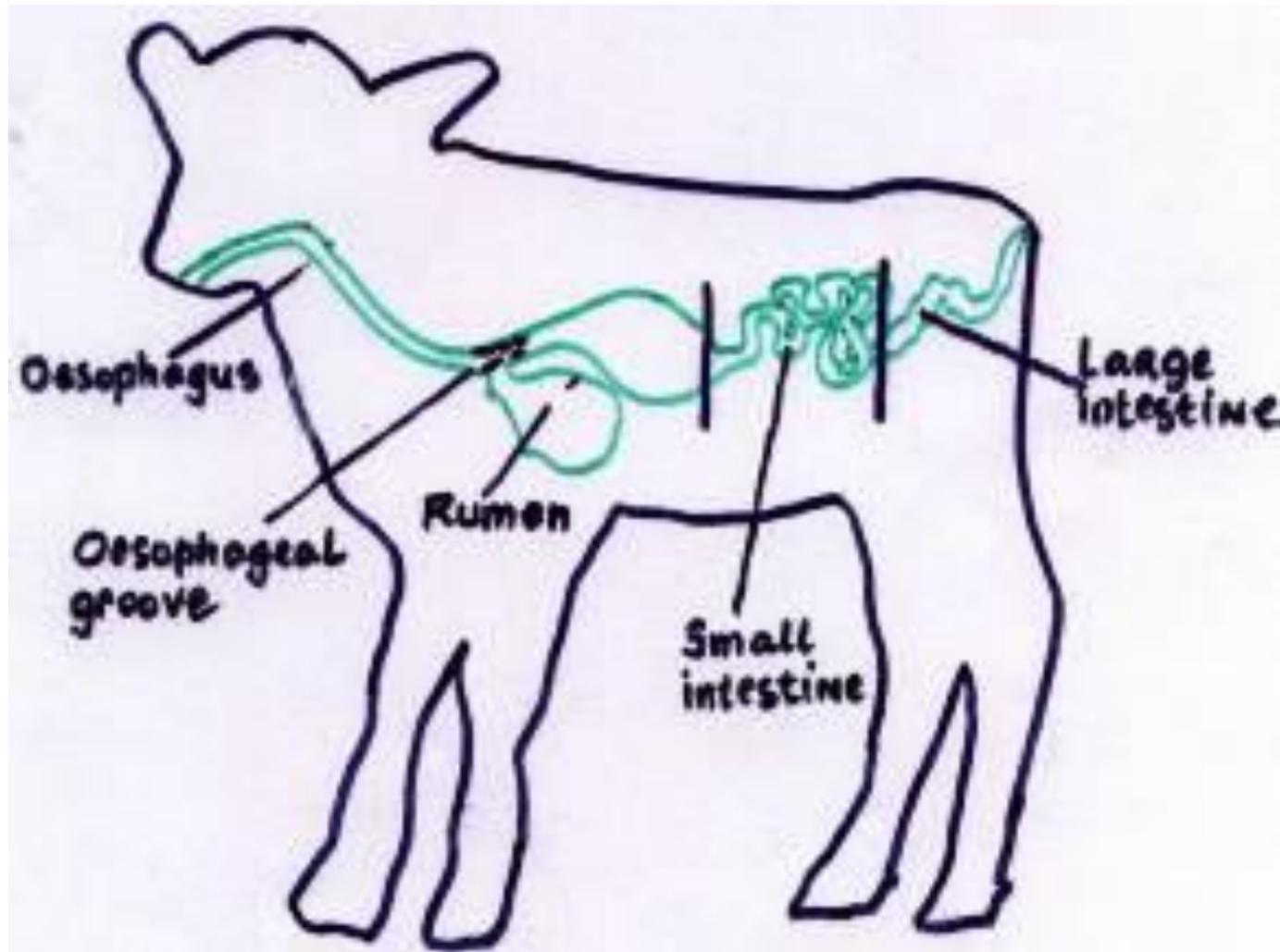
■ Farm management

- ▶ by Mr. Fokko Tolsma
- ▶ dairy management consultant

Different production in future at the first lactation

- The milkproduction of the first lactation is the most important
- 1a lact 4000 kg 6000 8000 9000
- 2da lact 5500 kg 7500 9500 10500
- 3ra lact 6000 kg 8000 10000 11000
- Why not 10.000 kg during the first lactation?
 - ▶ Never a long life cow

Colostrum very important



Composition of Colostrum in % (according to Lenkheit)

Time	Water	Proteins			Fat	Lactose	ASH
		Casein	Albumin- globulin	%			
	%	%	%	%	%	%	
Calving	66,4	5,57	16,92	6,5	2,13	1,37	
After 12 hours	79,1	4,47	8,98	2,5	3,51	1,04	
After 24 hours	84,4	4,23	2,63	3,6	4,24	0,97	
After 36 hours	80,8	4,08	1,64	2,1	4,14	0,95	
After 48 hours	86,3	3,91	1,23	3,7	4,51	0,93	
After 60 hours	86,2	3,62	1,08	3,7	4,38	0,91	
After 72 hours	86,1	3,55	1,06	3,9	4,63	0,99	

Pasteurized colost



Rule: First day: 20% intake from live weight

- 40 kg live weight =
- 8 liter colostrum

- 30 kg = 6 liter colostrum



Mexico

- 4 ltr colostrum + free drinking by cow
- Rule: First day: 20% intake from life weight



24 hrs after calving (IRAN)



8 hrs after birthing (South Africa)

Day 1 - morning 3 kg colostrum

evening 3 kg colostrum



The Milk Period

- Whole milk or milk replacer ?
- 3 days after birth --> milk with 4% fat content
- --> 4 - 5 kg/day (10% of live weight)
- --> milk replacer with 2% fat content
- + Water + High quality roughage
- + Concentrate (day 5) --> increase to 1,5 kg day
 - ▶ Feeding grain early stimulates the rumen
 - ▶ Fe level (> Hb level 6,0mmol/ltr blood) – 50% of calves too low level → weak calves, lower growth rate
- Weaning after 2 - 2,5 months --> 78 kgs

Heifer Growth Chart



live body weight (kgs)

Body Condition Score live body weight (kgs) height (cm)



Moment of insemination



TMR for youngstock period 2 - 6 months



Young stock Iran 2008



Average Feeding Requirements

Weight	DM-intake roughage	Kg concentrate	FUM	MJ	TDN	CP
100	1,5	1,75	2900	20,1	2210	17 – 18
150	2,9	1,0	3400	23,6	2600	16 – 17
200	4,6	0,5	4100	28,4	3130	16 – 17
250	5,2	0,5	4800	33,3	3660	15 – 16
300	6,1	0	5200	36,1	3970	15 – 16
350	7,0	0	5700	39,6	4350	15 – 16
400	7,3	0,5	6400	44,4	4890	14 – 15
450	7,7	1,0	7100	48,6	5340	14 – 15
500	8,4	1	7700	53,5	5880	14 – 15

Till 10 months (300 kgs live weight) the quality of the roughage should be: 850 FUM (5,9MJ/650TDN)

After 10 months : 800 FUM (5,6 MJ/610TDN)

temp 30 – 33°C, will increase dm intake with 3.4 – 6%



Calf rearing system in Mexico



Calves need to drink cold water
Temperature during day 35 degrees Celcius,
Night 20 degrees lower











Condition Score Calves/heifers

Condition score calves/heifers of different ages



Moment of insemination

- Insemination by 380 kg
- Insemination by 133 cm Height
- If feeding maize silage: Insemination by 13 months !!!!

Weights refer to cows with an adult weight of 680 kgs

Table Optimal Growth

	% of adult weight	live weight kgs	heart girth	rump height	average growth per day in grammes
Birth weight	6%	41			
Weaning weight	12%	82	101		550-600
Age 6 months	26,5%	180	129	108	700-800
Age 12 months	50%	340	161	126	800-850
Insemination at	55-60 %	375-408	168-174	130-133	675-725
Age 18 months	68%	460	182	135	600-650
After calving	85%	580	197	144	
Adult cow	100%	680	212		

Pregnant heifer Agro Soyuz 18 months



Pregnant Heifer Jordanie



TMR ration 18 - 22 months



Heifer 18 months South-west Victoria



Condition score 5



Heifer 260

At the moment
of calving



Five months
after calving



Production Cow 260

■ Lact 1

- ▶ 370 days 9173 kg
- ▶ 305 days 8113 kg

■ Lact 2

- ▶ 364 days 11128 kg
- ▶ 305 days 9895 kg

■ Lact 3

- ▶ 298 days 10064 kg
- ▶ 305 days 10188 kg

Comru		260 - CORRIE 39		Bedrijf 21970: PTC+ , Oentsjerk		woensdag 3 december 2008		Pag: 1			
Algemeen											
Vader	DOWNALANE CELLO	Responder	124	Moeder	35 CORRIE 36	Levensnummer	NL 3511.3096.8	Moeders vader	SPIRANDO TL	Diercategorie	Melkkoeien - aanwezig
Moeders moeder	551 CORRIE 35	Tak	Visgraat	Ras	HF	%	100,0%	Haarkleur	Zwartbont	Erfelijk gebrek	-
Datum	Omschrijving	Bedrag	Tak								
12-12-2002	Geboorte		Melkvee bestaand								
9-12-2004	Afvoer overig		Melkvee bestaand								
9-12-2004	Aanvoer overig		Visgraat								
Actuele gegevens											
Toestand	Drachtig (111)	Datum	Interval	Dekinfo	Opm	Stier					
Laatste kalfdatum	18-4-2008	12-7-2008	85	Tochtigheid	Afbl.	OLYMPIC					
Lactatienummer	4	14-8-2008	33	DHZ-KI							
Aantal dagen in lactatie	229	30-9-2008	47	Drachtonderzoek +							
Leeftijd	6,00										
Drachtigheidsonderzoek	Drachtig										
Verwachte kalfdatum	21-5-2009										
Verwachte TKT	398										
Droogzetdatum	-										
Productie											
Lact nr	Afkalddatum	Leeftijd	Dagen	Kg melk	Vet %	Eiw %	Kg vet	Kg eiw	Dagproductie		
									Kg melk	Vet + eiwit	LW
1	9-12-2004	2,00	370	9173	4,79	3,30	439	302	24,8	2003	111
			305	8113	4,66	3,23	378	262			
2	15-2-2006	3,02	364	11128	4,50	3,27	501	364	30,6	2376	106
			305	9895	4,37	3,21	433	317			
3	24-3-2007	4,03	298	10064	4,54	3,27	457	329	33,8	2638	104
			305	10188	4,56	3,27	464	334			
4	18-4-2008		215	8397	5,15	3,17	432	266	39,1	3247	112
			305	11081	5,27	3,29	585	365			
Levensproductie			1247	38762	4,72	3,25	1829	1261	31,1	2478	
Productie moeder 35 CORRIE 36											
Lact nr	Afkalddatum	Leeftijd	Dagen	Kg melk	Vet %	Eiw %	Kg vet	Kg eiw	Dagproductie		
									Kg melk	Vet + eiwit	LW
1	12-12-2002	2,04	419	9119	5,10	3,54	465	323	21,8	1881	100
			305	7406	5,00	3,45	375	258			

Lifeproduction cow 260



- 4e lact
 - ▶ 333 d 11391 kg
 - ▶ 305 d 10833 kg
- total lifeprod
- 41756 kg milk
- average/milk/day
- 30,6 kg

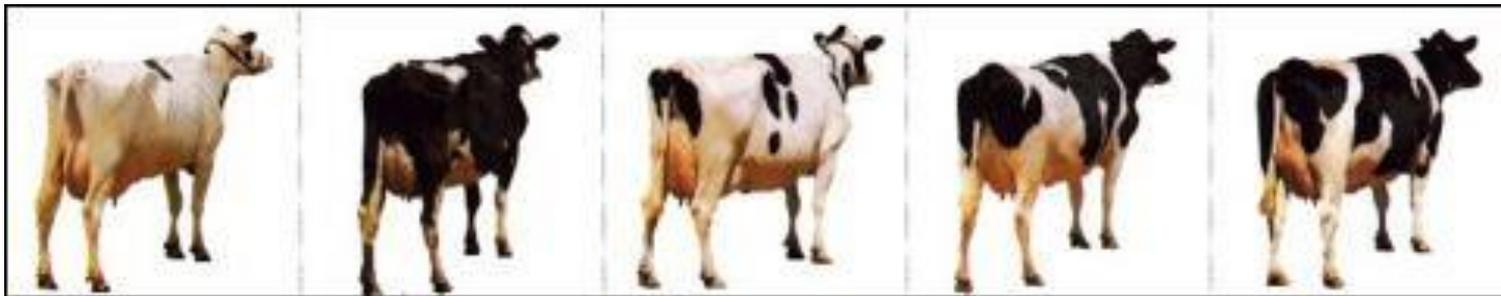
Lact nr	Afkalfdatum	Leeftijd	Dagen	Kg melk	Vet %	Eiw %	Kg vet	Kg eiw	Dagproductie Kg melk	Vet +
1	9-12-2004	2,00	370	9173	4,79	3,30	439	302	24,8	
			305	8113	4,66	3,23	378	262		
2	15-2-2006	3,02	364	11128	4,50	3,27	501	364	30,6	
			305	9895	4,37	3,21	433	317		
3	24-3-2007	4,03	298	10064	4,54	3,27	457	329	33,8	
			305	10188	4,56	3,27	464	334		
4	18-4-2008	5,04	333	11391	5,26	3,31	599	377	34,2	
			305	10833	5,21	3,28	565	356		
Levensproductie			1365	41756	4,78	3,29	1996	1372	30,6	

Dagproductie lactatie 4

Proefmelkdatum	Kg melk	Vet %	Eiw %	Vet + eiwit (gram)	Celgetal	LW
7-5-2008	39,3	5,61	3,33	3513	28	104
4-6-2008	41,9	3,80	2,89	2803	115	97
2-7-2008	41,7	4,12	2,81	2890	82	99
30-7-2008	40,6	4,03	2,90	2814	129	103
27-8-2008	44,0	6,03	3,13	4030	147	118
24-9-2008	41,7	6,74	3,34	4203	178	119
22-10-2008	34,8	5,20	3,52	3035	98	114
19-11-2008	33,1	5,57	3,63	3045	155	112
17-12-2008	28,4	5,02	3,80	2505	104	109
21-1-2009	22,1	5,92	3,74	2135	173	106
17-2-2009	19,0	6,33	3,95	1953	204	105

Condition score cows

- Always 3 ribs !!



- Score:

- 1 2 3 4 5



Dry cows Gippsland Australia



Cow Eastland Cash farm one week before calving

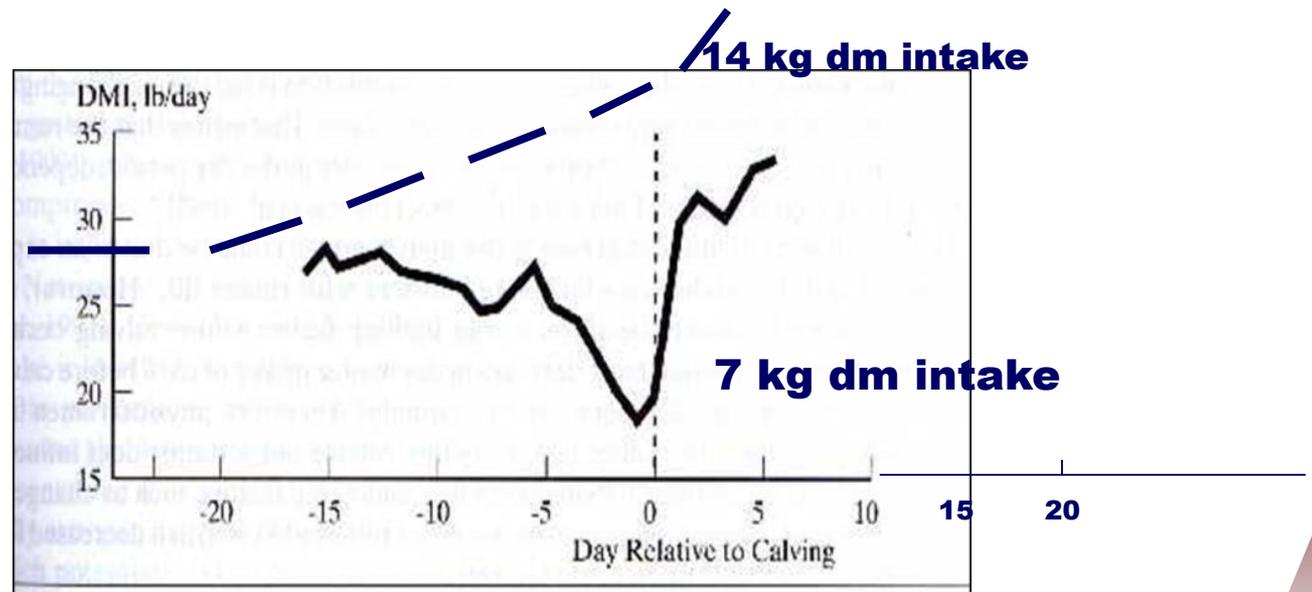


Close-up Period

Close-up period important

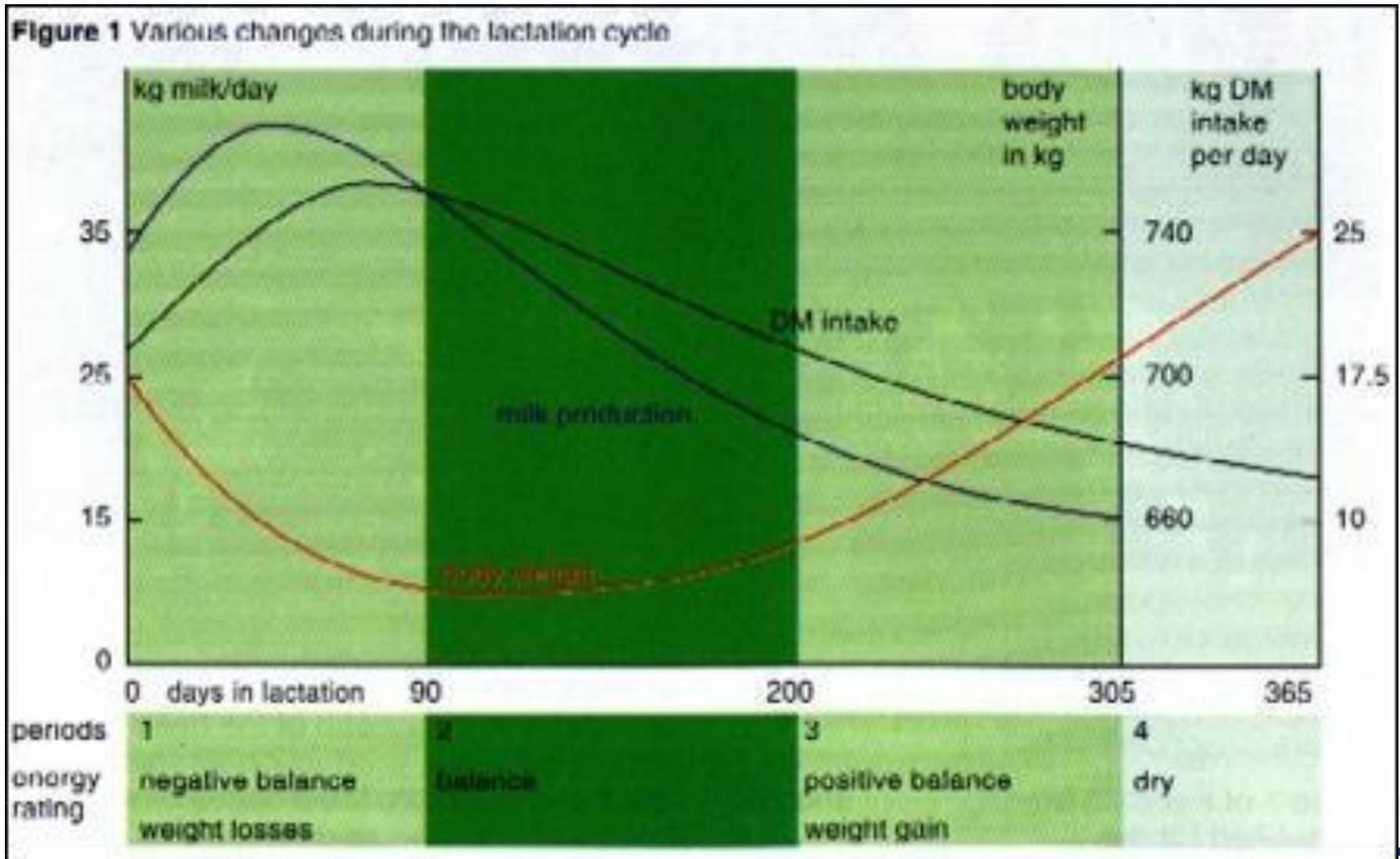
- ▶ 2 - 3 weeks before calving
- ▶ Negative energy balance mostly causes problems

- --> 15.8 kg
- --> 13.6 kg
- --> 11.3 kg
- --> 9.0 kg
- --> 6,8 kg



- ▶ First milk yield increases energy demand

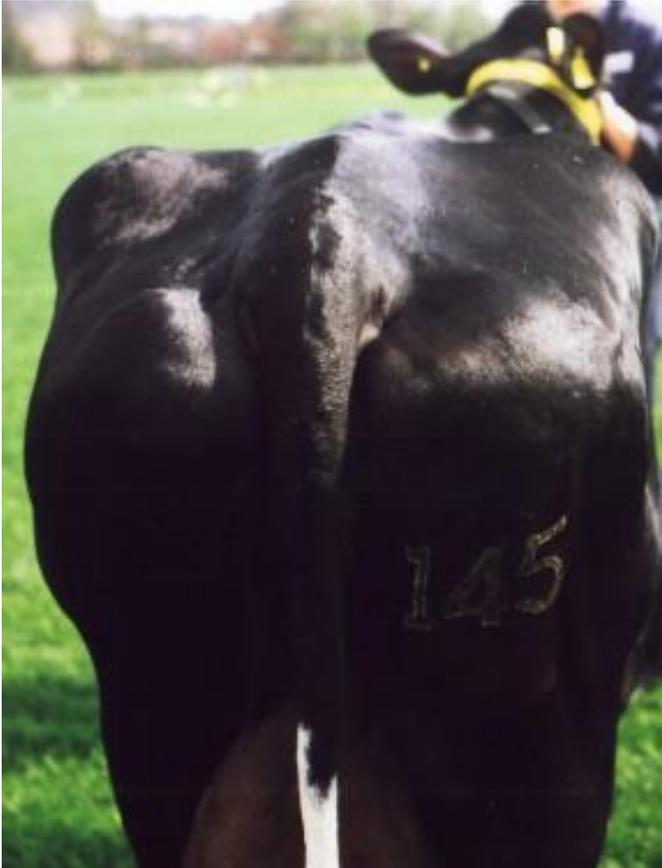
Negative energy balance after calving



Liver is the hearth of the metabolic system

- Fatty Liver --> In the Netherlands 54 % cows have this problem
- The cow can built up the fat level in the liver
- Till 10% fat in the liver no problems (Size normal liver 8 - 10 kg)
- Cow can built up 500 grams fat a day (6 till 8 % of the liver capacity)
- When the liver has created more than 14% fat, the liver stops functioning (dichtslibben)
 - Fatty liver produces 35% less glucose
- Fatty liver has less efficiency for other feedstuff
- Less appetite --> lower glucose level
- To much protein in the beginning of the lactation (17-19%) can give problems. Toxication of ammoniac
- Fatty liver --> less resistance --> more risk mastitis

BSC of cow 145



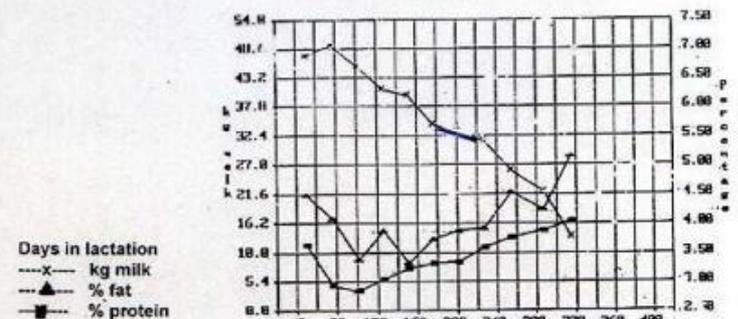
Milkcontrole Cow 145

days	milk kg	fat%	protein %
30 days	47.3	4.49	3.63
60 days	49.2	4.07	2.93
90 days	45.3	3.38	2.85
120 days	41.0	3.68	3.03
150 days	39.9	3.22	3.22

Day-production Lactation 5

Date of recording	kgs milk	% fat	% prot.	f p	scc x 1000	lact value
01/04/99	47.3	4.49	3.63	3841	18	0
29/04/99	49.2	4.07	2.93	3444	14	109
27/05/99	45.3	3.38	2.85	28??	14	98
23/06/99	41.0	3.88	3.03	2933	22	93
21/07/99	39.9	3.32	3.22	2609	28	94
18/08/99	34.4	3.73	3.31	2422	25	94
14/09/99	33.3	3.88	3.34	2404	41	94
13/10/99	31.5	3.93	3.59	2369	54	95
12/11/99	26.0	4.53	3.77	2158	107	93
18/12/99	22.1	4.23	3.88	1792	78	92
18/01/00	13.8	5.15	4.04	1408	175	93

Cow 145. ZWARTJF 59. lactation number 5. calvingdate. 200399



Influence BCS Fertility

Influence condition score fertility						
Lost of condition	Number of	Number of	Number of	Pregnancy		
	days till	days till	days till	percentage after		
	ovulation	first heat	1st ins	1st insemination		
< 0,5	27	48	68	65	%	
0,5 - 1 point	31	41	67	53	%	
> 1,0 point	42	62	79	17	%	!!!

1st calving cow

- Important:
- Heifers after calving in special heifer group
- Warm water

Provision of water

■ Water provider per 30 - 40 cows

- Dry cows 30 - 60 lt/day
- Cow 10 kg milk 30 - 70 lt/day
- Cow 30 kg milk 90 - 150 lt/day
- Cow 50 kg milk 100-200 lt day
- Calves < 1 year 5 - 15 lt/day
- Calves 1 - 2 year 15- 25 lt/day
- Bull for meat 20- 60 lt/day
- Sheep/goats 1,5 - 6 lt/day



- ▶ Dry cows --> individual water supply possible
- ▶ Temp: 7 – 15°C (temp 30 – 33°C increase intake with 3.4 – 6%)



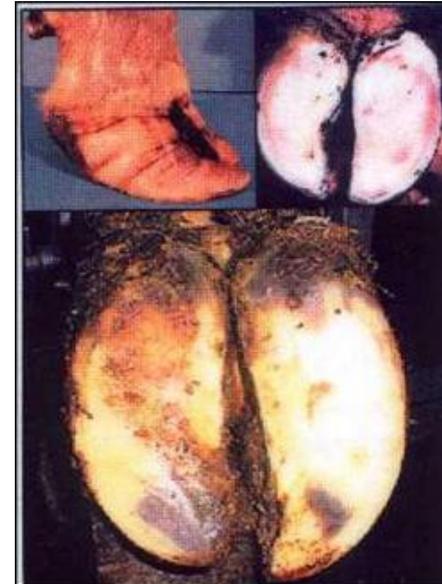
Dermatitis Digitales



Foot Care Management

Metabolic Disease

- Laminitis (40%)
- A disorder that occurs around calving
 - ▶ - a bruckled toe
 - ▶ - growth rings
 - ▶ - fluid or blood in the horn
 - ▶ - defects in the white line
 - ▶ - double sole
 - ▶ - weak hooves --> weight bearing problems
- Treatment
 - ▶ Trim claw 3 times a year
 - ▶ If necessary, fix a block under healthy claw
 - ▶ STRAW / RUBBER FLOOR



- Important:
- Enough intake of energy after calving / Vitamin H (biotin)+Zn
- No fat cow
- Not too much concentrate

Laminitis (2)

