













Milk production and milk composition of dairy cows in early lactation1 fed a glucogenic diet, a lipogenic diet, or a mix of both diets (LSM <u>+</u> SEM) (Van Knegsel et al., 2007)

Variable	Glucogonia	Mixed	Linogonia	SEM	Diet	Wook	Day ×
valiable	Glucogenic	MIXeu	Lipogenic	OLIM	Diet	WCCK	WCCK
Primiparous cows, n	13	7	12				
Milk yield, kg/d	30.0	29.2	29.8	0.8	0.78	< 0.01	0.76
FPCM, ² kg/d	30.0	30.3	30.6	0.8	0.84	< 0.01	0.35
Lactose, %	4.73 ^a	4.76 ^{ab}	4.67 ^b	0.02	0.03	< 0.01	0.63
Fat, %	4.07	4.39	4.30	0.11	0.10	< 0.01	0.97
Protein, %	3.23	3.28	3.27	0.06	0.78	< 0.01	0.84
Lactose, kg/d	1.42	1.39	1.40	0.04	0.82	< 0.01	0.65
Fat, kg/d	1.22	1.27	1.27	0.04	0.47	< 0.01	0.42
Protein, kg/d	0.97	0.95	0.97	0.02	0.84	< 0.01	0.94
Fat:protein ratio	1.27	1.34	1.31	0.03	0.17	< 0.01	0.97
SCC ³ (×10 ³ /mL)	91	192	68	26	0.11	0.02	0.73
Multiparous cows, n	29	18	32				
Milk yield, kg/d	43.4	44.0	43.2	1.1	0.88	< 0.01	0.05
FPCM, ² kg/d	41.5	43.8	44.1	1.1	0.18	< 0.01	0.24
Lactose, %	4.58^{a}	4.56 ^{ab}	4.49^{b}	0.02	0.01	< 0.01	0.81
Fat. %	(3.69^{a})	4.02^{b}	4.22^{b}	0.07	< 0.01	< 0.01	0.82
Protein, %	3.25	3.24	3.23	0.03	0.94	< 0.01	0.09
Lactose, kg/d	1.99	2.01	1.95	0.05	0.69	< 0.01	0.09
Fat, kg/d	1.59 ^a	1.76 ^{ab}	1.83 ^b	0.05	< 0.01	< 0.01	0.54
Protein, kg/d	1.40	1.42	1.40	0.04	0.92	0.01	0.18
Fat:protein ratio	1.14 ^a	1.24 ^b	1.31 ^b	0.01	< 0.01	< 0.01	0.66
SCC3 (×103/mL)	77 ^a	65 ^a	303^{b}	26	< 0.01	< 0.01	0.41
^{a,b} Values in the same ¹ Weeks 1 to 9 relativ ² Fat- and protein-con	e row with diffe ve to calving. rrected milk.	rent superscr	ipts differ ($P <$	0.05).			

Veerkracht/DGC/2019











































			Ketosis status	
Parameter	No. of cows	None	SCK	CK
Colostrum (L)	1,572	4.7	5.6	7.2
Actual yield (L)/expected yield (L)	1,149	0.99	1.02	1.00
Milk (L)	1,149	34.6	37.9	36.8
SCC × 1,000	1,149	212.9	131.5	186.8
Protein %	1,149	3.4	3.3	3.2
rat %	1.149	4.2	4.3	4.6





Severe	fatty liver $(n = 15)$	Co	ntrol $(n = 15)$	
Median	Interquartile range	Median	Interquartile range	P-value
2.85	2.5-3.35	3.7	3.55 - 4.12	< 0.001
1	0.82 - 1.2	0.4	0.23 - 0.52	< 0.001
2.77	2.06-3.36	0.46	0.35 - 0.6	< 0.001
130.69	117.46 - 145.56	74.63	65.46-83.9	< 0.001
28.18	24.7-32.96	17.33	15.58 - 23.24	< 0.001
0.47	0.42-0.58	0.18	0.13 - 0.21	< 0.001
93.5	82.36-105.14	41.88	34.7-55.54	< 0.001
44.1	35.7-49.3	20.9	17.6-23.3	< 0.001
25.6	19.92 - 31.68	13	11.01 - 13.73	< 0.001
	Severe 1 2.85 1 2.77 130.69 28.18 0.47 93.5 44.1 25.6	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$















THE INTERACTION BETWEEN PRE- AND POSTPARTUM CP LEVELS ON NUTRIENT INTAKE, MILK AND COMPOSITION , AND BW AND BCS CHANGES IN THE FIRST 21 DAYS OF LACTATION FOR MULTIPAROUS HOLSTEIN COWS 1 (Farahani et al., 2018)

ipost = 10) 15.20 ^b 14.59 25.61 ^b 15.16 ^b 12.09 24.15 ^b	19post (n = 9) 17.67* 38.17 30.00* 40.26* 37.00	16post (n = 8) 17.02^{a} 37.49 28.60^{a} 39.42^{a}	$\begin{array}{c} 19 post \\ (n=10) \\ 17.36^{a} \\ 37.75 \\ 29.71^{a} \end{array}$	SEM 0.59 0.77 0.95	Pre 0.41 0.21 0.33	Post <0.01 0.01 <0.01	Pre × Post 0.02 0.04 0.01	Time <0.01 0.67 <0.01	Pre × Time 0.24 0.97 0.20	Post × Time 0.96 0.96 0.92	Pre × Pos × Time 0.83 0.65
15.20 ^b 14.59 25.61 ^b 15.16 ^b 12.09 24.15 ^b	17.67* 38.17 30.00* 40.26* 37.00	17.02* 37.49 28.60* 39.42*	17.36* 37.75 29.71*	0.59 0.77 0.95	0.41 0.21 0.33	${<}0.01 \\ 0.01 \\ {<}0.01$	0.02 0.04 0.01	<0.01 0.67 <0.01	0.24 0.97 0.20	0.96	0.83
14.59 25.61 ^b 15.16 ^b 12.09 24.15 ^b	38.17 30.00* 40.26* 37.00	37.49 28.60 ^a 39.42 ^a	37.75 29.71*	0.77 0.95	0.21 0.33	0.01 <0.01	0.04 0.01	0.67	0.97	0.96	0.65
25.61" 85.16 ^b 82.09 24.15 ^b	40.26" 37.00	28.60° 39.42 ^a	29.71"	0.95	0.33	< 0.01	0.01	< 0.01	0.20	11 11 2	
85.16 ⁶ 82.09 24.15 ⁶	40.26 [*] 37.00	39.42 ^a								0.06	0.81
2.09 24.15 ^b	37.00		28 G*	0.92	0.92	0.01	<0.01	<0.01	0.63	0.92	0.97
24.15 ^b		34.9	36.18	1.20	0.45	0.01	0.10	0.69	0.97	0.98	0.50
	28.09 ⁿ	27.09 ^a	27.46"	0.78	0.22	< 0.01	0.02	0.77	0.96	0.95	0.63
4.69	79.94	76.68	79.46	2.90	0.81	0.13	0.64	< 0.01	0.31	0.97	0.65
0.47	3 50	0.00	0.87	0.10	0.00	0.40	0.54	-0.01	0.63	0.00	0.99
3.47	3.50	3.32	3.37	0.18	0.83	0.43	0.34	<0.01	0.62	0.82	0.38
1.20	1.39	1.21	1.51	0.01	0.70	0.05	0.49	0.11	0.90	0.94	0.30
3.12	3 21	3.26	3.20	0.07	0.45	0.77	0.24	< 0.01	0.19	0.67	0.99
1.08 ^b	1.28*	1.27*	1.23*	0.03	0.20	0.04	< 0.01	0.59	0.91	0.75	0.98
4.60	4.62	4.79	4.68	0.05	0.05	0.29	0.12	< 0.01	0.44	0.57	0.32
1.61"	1.86*	1.89 ^a	1.82 ⁿ	0.04	0.08	0.06	< 0.01	< 0.01	0.48	0.93	0.78
72.6	51.6	78.5	54.9	11.00	0.69	0.04	0.90	0.04	0.04	0.36	0.22
9.75"	12.10"	19.08-	14.84*	0.36	0.06	< 0.01	0.02	< 0.01	0.17	0.41	0.88
0.75	-33.5	-31.12	-29.10	3.30	0.54	0.90	0.47				
-0:45	-0.30	-0.35	-0.38	0.05	0.87	0.31	0.10			0.98 0.95 0.97 0.82 0.94 0.67 0.75 0.57 0.93 0.36 0.41	
i i i i i i i i i i i i i i i i i i i	3.47 1.20 3.12 1.08 ^h 4.60 1.61 ^h 2.6 2.75 ^b 0.45 fferent s 5pre =	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$						

































CALVES NEED TO BE	LVES NEED TO BE PROGRAMMED TO A HIGH PRODUCING										
COW !!!! IS RESTRI	CTED	TO TH	IEIR FI	RST W	EEKS C)F LIF	E !!!!				
	(Brov	vn et	al., 200)5)							
	Week	LL	LH	HL	нн	Р					
ADG (g)	2-8	378	378	668	668	**					
	8-14	470	1,060	400	1,130	* / **					
Final BW (kg)	14	79.7	106.3	87.3	120.6	** / **					
Total mammary weight (g/100 kg BW)	8	181	181	255	255	*					
	14	252	390	274	511	* / **					
Parenchyma weight	8	1.9	1.9	6.2	6.2	*					
	14	16	15	24	23	* / ns					
LL = Low growth week 2-14 LH = Low growth week 2-8, high g HL = High growth week 2-8, low g HH = High growth week 2-14	rowth wee rowth wee	k 8-14 k 8-14		Bridt lithered optimetial cells, %	** P< 0.01, lelial Cell Proliferat	* P< 0.05 ion News and Van André V P = 0.08 V P = 0.16 TTEW: P = 0.16	rgh 2000				
(Brown et al., 2005)		Veerkracht/D	OGC/2019	*Den	220 330 440 Slaughter We otes treatment effect within sl	550 660 770 ight, Ib aughter weight. (P < 0.0	5)				



COW COMFORT; (HEAT) STR CALF QUALITY; AS THEY MAT	ESS URI al	OF ⁻ E; TH ., 20	THE (IEY SI 16)	CLOSE URVIN	-UP /E BI	CO\ Ette	N INI ER (N	FLUE 1onte	NCES eiro et
<u>, , o</u> ,	1	U	CL				HT		P-value
Item	AI	IVF^1	Total	% ²	AI	IVF	Total	%	Trt^3
Bull calves (no.)	30	1	31	_	28	2	30	-	
Heifer calves (no.)	29	12	41	Televis	29	15	44	-	
DOA ^a	0	0	0	0.0	2	1	3	4.1	0.25
Bull calf mortality by 4 mo of age	1	0	1	3.2	3	0	3	10.0	0.35
due to sighteever melformation or growth retardation	1	4	3	12.2	3	5	10	18.9	0.26
Heifers leaving herd after puberty before first lactation	1	0	1	2.4	3	0	3	6.8	0.63
lactation			*	2.4	0	0	9	0.0	0.02
Heifers completing first lactation	27	8	35	85.4	22	7	29	65.9	0.05
¹ IVF = in vitro fertilization. ² December of animals (AL IVF) effected out of total of	nimala	(males or	formalian	in the new	antina ta				
^a Treatment. ^a Dead on arrival. Includes male and female calves.	Veerk	.racht/D0	, 6C/2019				То	o mu	ch milk





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