

1 **Effect of shortening dry period and body condition score on colostrum and milk quality,**
2 **blood parameters, and some reproductive parameters in high-producing Holstein cows**

3

4 Nazanin Javani Javani¹, Ahmad Riasi¹, Esmail Montazeri^{1,2}, Saeid Ansari Mahyari¹,

5 Mohammad Choupani¹

6

7 SUPPLEMENTARY FILE

8

9

10

Table S1. Ingredients and chemical composition of ration to Holstein cows.

Items	Far-off	Clos-up	Fresh	Lactation
Ingredients, g/kg DM				
Corn silage	466	467.8	294.8	279.9
Alfalfa hay	194.1	122.3	192.3	105.6
Wheat straw	-	-	-	15.8
Energy booster	-	-	5.1	13.8
Corn grain	135.9	122.9	153.8	264.7
Barley grain	-	114.7	128.2	84.5
Soybean meal	40.7	22.1	125	115.2
Canola meal	-	69.6	-	16.9
Whole cotton seed	-	22.9	48.7	35.2
Meat meal	23.7	17.6	20.5	33.8
Rice bran	124	-	-	-
Salt	2.5	-	2.5	3.3
Dicalcium phosphate	-	-	2	1.6
Calcium carbonate	6.7	14.3	7.6	7.8
Biotin	-	0.08	0.05	-
Alcobuff	-	-	-	1.4
Methionine	-	0.6	0.5	0.3
Yeast	-	0.6	0.4	0.3
Urea	-	-	-	3.6
Calcium chloride	-	6.1	-	-
Magnesium sulfate	-	7.3	-	-
Magnesium oxide	1.3	2.4	2.5	2
Sodium bicarbonate	-	-	8.7	8.4
Bio binder	1.6	4	3.5	2.8
Organic selenium	-	0.04	0.05	-
Niacin	-	0.06	0.5	-
Vitamin and Mineral supplement ^a	2.8	8	6.7	5.1
Chemical composition				
Dry matter, g/kg as fed	440	440	540	520
Crude protein, g/kg DM	131	133	161	177
Ether extract, g/kg DM	42	32	39	49
Ash, g/kg DM	91.9	80	62	54
aNDF ^b , g/kg DM	420	367.9	335	330
ADF ^c , g/kg DM	248.5	217	187.4	183.3
NEL ^d , MJ/kg of DM	-	-	68.8	71

^a. Vitamin A, 1,500,000 IU/kg; Vitamin D3, 400,000 IU/kg; Vitamin E, 15,000 IU/kg, CoSO₄, 120 mg/kg; CuSO₄, 5000 mg/kg; Ca(IO₃)₂, 200 mg/kg; FeSO₄, 800 mg/kg; MnSO₄, 15,000 mg/kg; Na₂SeO₃, 100 mg/kg; ZnSO₄, 2000 mg/kg.

^b. Neutral detergent fiber assayed with a heat stable amylase and expressed inclusive of residual ash.

^c. Acid detergent fiber.

^d. Net energy for lactation calculated according to NRC (2001).

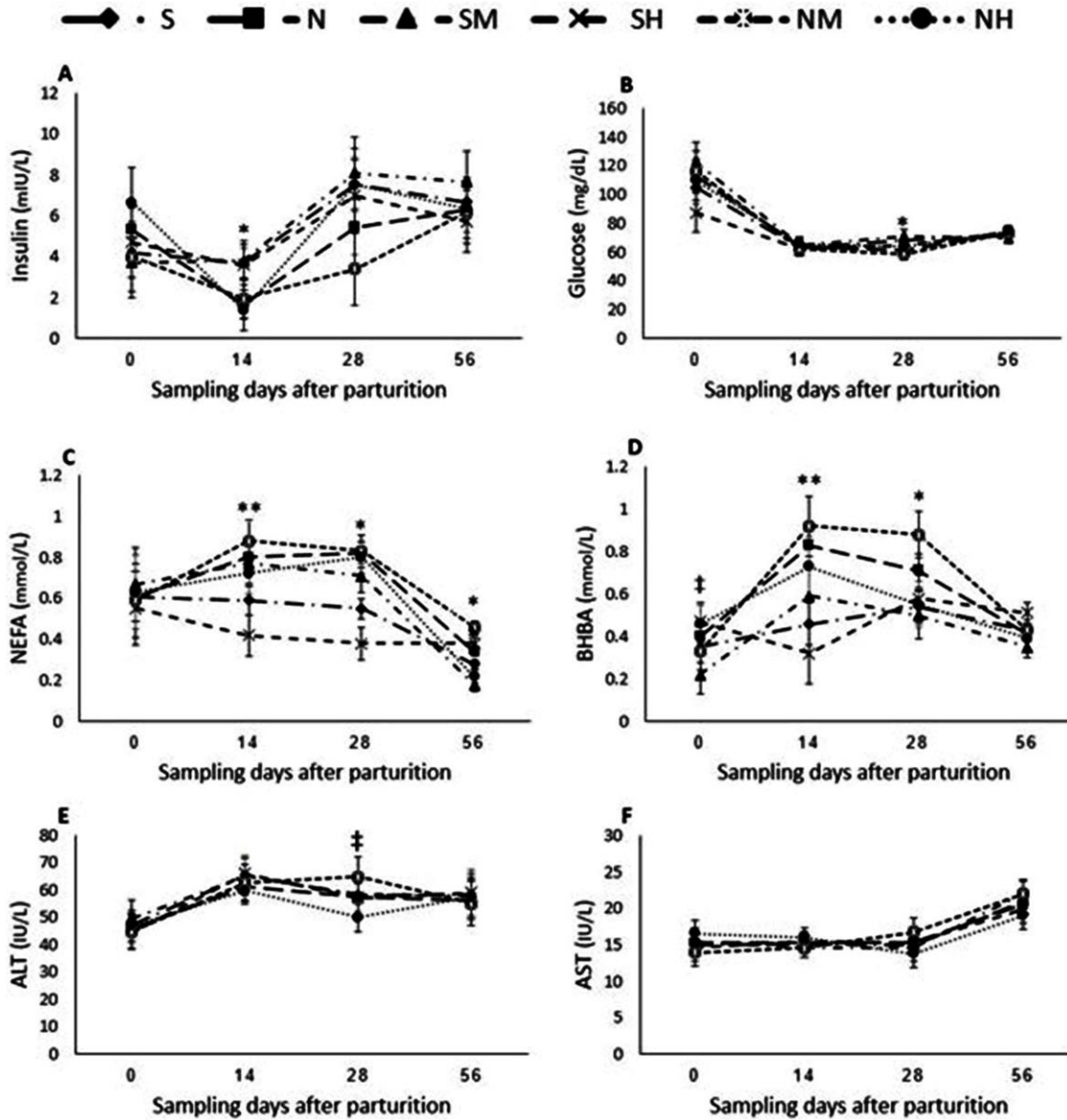
Samples of diets were collected to measure the dry matter, crude protein, ether extract (EE), ash (AOAC, 2002), neutral detergent fiber (aNDF), and acid detergent fiber (ADF) as detailed in Van Soest et al., 1991)

12
13
14
15
16
17
18
19
20
21
22
23
24

Blood sampling and analysis

Blood samples in each group were randomly collected from the coccygeal vein of 10 cows on days 0, 14, 28, and 56 after calving. Blood samples were immediately transferred to a dairy laboratory and centrifuged at $2500 \times g$ for 15 minutes. Serum samples were frozen for blood analysis at -60° C. Measurement of NEFA (Randox Kit, Intra- and inter-CV 3.2% and 6.3%) and BHBA (Randox Kit, Intra- and inter-CV 3 2.3% and 5.1%), Insulin (Randox Kit, Intra- and inter-CV 5.37% and 6.80%), glucose (Randox Kit, Intra- and inter-CV $<2\%$ and $<2\%$), ALT (Alanine aminotransferase) (Randox Kit, Intra- and inter-CV $<10\%$ and $<12\%$) AST (Aspartate transaminase) (Randox Kit, Intra- and inter-CV $<10\%$ and $<12\%$) in blood samples were performed using standard kits.

25 Figure S1



(A-F) Effect of shorting dry period and body condition score on insulin, glucose, non-esterified fatty acids (NEFA), beta hydroxy butyric acid (BHBA), alanine aminotransferase (ALT), Aspartate transaminase (AST), at the different sampling time after parturition in Holstein dairy cows. Significant differences are shown by different tags (‡ $p < .1$, * $p \leq .05$, ** $p \leq .01$). NH: normal dry period and high BCS, NM: normal dry period and moderate BCS, SH: short dry period and high BCS, SM: short dry period and moderate BCS, N: normal dry period, S: short dry period, Values are expressed as mean \pm SE.

