

Effects of supplementing different feed additives to high-concentrate diets containing potassium carbonate on dairy cow performance

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SUPPLEMENTARY FILE

Table S1. Ingredients and chemical composition of the diet

Item	Value
Ingredient, % DM	
Corn silage	16.8
Alfalfa hay	11.7
Beet pulp	3.3
Barley grain, ground	3.3
Corn grain, ground	37.7
Soybean meal, 44% solvent	8.8
Cottonseeds, fuzzy	1.7
Canola meal	2.7
Meat meal	3.5
Fish meal	3.1
Fat supplement, hydrogenated palm oil	2.2
Urea	0.62
Trace mineral and vitamin mix ¹	0.25
Calcium carbonate	0.88
Di-calcium phosphate	0.37
NaCl	0.51
Rumen Buffer ²	1.62
Magnesium oxide	0.37
Organic selenium	0.004
Monensin	0.015
Bentonite	0.44
Nutrient composition, % DM	
DM	61.5
CP	19.6
NDF	31.6
Starch	26.9
NEL	1.79

¹Contained 800 mg/kg of Fe, 3000 mg/kg of Cu, 10000 mg/kg of Mn, 120 mg/kg of Co, 16000 mg/kg of Zn, 80 mg/kg of Se, 150 mg/kg of I, 2000 mg/kg monensin, 1300 kIU/kg of vitamin A, 360 kIU/kg of vitamin D, and 12 kIU/kg of vitamin E. ²Rumen optimizer (a rumen buffer contained K₂CO₃, Pishgam Damparvar Sepahan Co., Isfahan, Iran); contained 10% K, 26% Na, 3% Mg.

Table S2. Body weight and BCS changes in dairy cows fed diets differing in feed additives

Item	Treatments ¹				SEM	<i>P</i> -value
	Control	Yeast	EO	Peptides		
BW ² , kg	661	663	670	669	11.8	0.44
BW changes, kg/period	2.75	13.00	2.13	4.50	5.84	0.54
BCS ²	2.94	3.09	3.03	3.00	0.17	0.50
BCS change	0	0.18	0.03	0.06	0.087	0.47

^{a,b} Least squares means within a row with different superscripts differ significantly ($P < 0.05$).

¹Treatments were: control, a diet containing rumen optimizer (Pishgam Damparvar Sepahan Co., Isfahan, Iran) as a rumen buffer [1.6 % of diet dry matter (DM) and contained 10 % K]; 2) yeast, the control diet supplemented with live *Saccharomyces cerevisiae* yeast (0.06 % of diet DM); 3) Essential oils (EO), the control diet supplemented with essential oils (0.02 % of diet DM); and 4) Peptides, the control diet supplemented with biogenic peptides (0.16 % of diet DM).

²BW and BCS were measured at start of experiment and at the end of each experimental period.