



USE OF CLINOPTILOLITE IN DAIRY COWS FEED AS A WAY TO IMPROVE THE PRODUCTIVE PERFORMANCES

Authors: DRĂGOTOIU Dumitru, MARIN Monica, POGURSCHI Elena, DRĂGOTOIU Tomița
Email: dimitrudragotoiu@yahoo.com

Clinoptilolite, the basic component of the volcanic tuff, used as feed additive in 350 g/head/day dairy cow feed, can result in a qualitative improvement in milk production, increasing protein concentration and decreasing the total number of germs. The use of this average amount of tuff determined a positive value of the dietary anion-cation difference in ration, constituting the guarantee for improving milk production and cow health. A lower variation in calcium, phosphorus and magnesium in blood occurs when using the tuff in cows' feed during the precalving period and the first 2 weeks after calving.



Experimental scheme

Batch	n	Treatment	Objectives
Control batch	20	Total Mixed Ratio (TMR)	- the body weight; - the milk production; - the milk chemical composition; -the total germs number from milk; -the cows health (respiratory diseases and pododermatitis); - biochemical blood parameters
Experimental batch 1	20	TMR + 200 g tuff/head/day	
Experimental batch 2	20	TMR + 350 g tuff/head/day	
Experimental batch 3	20	TMR + 500 g tuff/head/day	

Quantitative and qualitative parameters of milk production

Batch	Sampling	Milk production (l)	Protein (%)	Fat (%)	pH	Total germs number (TGN/ml)
Control batch	Beginning of experience	25.16±0.55	2.87±0.04	4.02±0.37	6.47±0.04	98000±2645
	50 days of experience	25.67±0.91	2.91±0.11	4.00±0.42	6.49±0.03	97528±1984
	100 days of experience	24.99±1.11	2.90±0.08	4.03±0.58	6.43±0.05	98584±2289
Experimental batch 1	Beginning of experience	25.67±1.26	2.93±0.21	3.98±0.52	6.50±0.02	95543±1758
	50 days of experience	24.74±2.09	2.98±0.17	4.01±0.39	6.52±0.04	90154±2004
	100 days of experience	24.85±1.53	3.01±0.06	3.99±0.74	6.53±0.06	88756±2159
Experimental batch 2	Beginning of experience	25.74±0.49	2.90±0.12	4.12±0.28	6.44±0.06	96239±1562
	50 days of experience	26.17±0.84	2.98±0.07	4.08±0.42	6.38±0.05	89726±1893
	100 days of experience	25.79±1.38	3.09±0.10	4.10±0.31	6.40±0.02	83020±2084
Experimental batch 3	Beginning of experience	24.56±0.69	2.85±0.03	4.05±0.58	6.49±0.07	97589±1673
	50 days of experience	24.97±1.26	2.89±0.07	4.08±0.73	6.53±0.04	95462±1148
	100 days of experience	25.63±0.88	2.98±0.10	4.04±0.41	6.52±0.03	90675±1984

The blood content of macroelements for lactating cows

Month	Calcium (mg/dl)		Phosphorus (mg/dl)		Magnesium (mg/dl)	
	Control batch	Experimental batch	Control batch	Experimental batch	Control batch	Experimental batch
March	8.12±0.02	8.08±0.03	5.12±0.02	4.88±0.05	2.14±0.006	2.05±0.008
April	8.34±0.04	8.29±0.01	4.37±0.01	4.47±0.07	2.47±0.008	2.51±0.009
May	7.25±0.07	7.43±0.04	4.21±0.03	3.88±0.06	2.22±0.009	2.18±0.006
June	8.27±0.09	8.58±0.08	4.68±0.04	4. 81±0.07	1.78±0.006	1.82±0.008
July	9.05±0.07	9.85±0.07	5.53±0.02	6.14±0.09	1.92±0.004	1.98±0.009
August	8.52±0.09	9.34±0.05	6.01±0.03	6.32±0.05	2.11±0.005	2.03±0.006
September	8.12±0.10	9.04±0.05	5.27±0.02	5.76±0.08	2.57±0.008	2.42±0.008
October	8.01±0.04	9.12±0.07	4.88±0.01	5.84±0.02	2.45±0.007	2.61±0.007