

Heat Stress Amelioration Potential of PHYTOCEE®: Effects on Panting Score and Rumen Motility

OBJECTIVE

To evaluate effect of PHYTOCEE® on panting score and rumen motility in heat stressed dairy cows.

MATERIALS AND METHODS

A total of 48 *Holstein Friesian* cross bred (HFx) dairy cows were selected for this study. Selected dairy cows were equally divided in to 4 experimental groups (n=12) namely G1-Control, G2-PHYTOCEE®-50 (50 g/animal/day), G3-PHYTOCEE®-75 (75 g/animal/day), and G4-PHYTOCEE®-100 (100 g/animal/day). The environmental temperature during the study period was between 33°C to 37°C. The duration of treatment was 4 weeks. The dairy cows were used as their own controls and, therefore, allocated to a control pretreatment period (week 0), followed by a treatment period (4 weeks). The assessment parameters viz. panting score and rumen motility were evaluated. The panting score was evaluated on an ordinal scale of 0-5 (0 being normal and 5 being deceased panting). Rumen motility was observed for 10 mins.

RESULTS

Effect of PHYTOCEE® on panting score and rumen motility in dairy cows

Group	Week 0	Week 1	Week 2	Week 3	Week 4
	Panting Score				
G1: Control	3.00 ± 0.00	3.00 ± 0.00	3.00 ± 0.00	3.00 ± 0.00	***2.08 ± 0.19
G2: Phytocee 50	3.00 ± 0.00	3.00 ± 0.00	3.00 ± 0.00	***2.54 ± 0.04	***1.50 ± 0.15
G3: Phytocee 75	3.00 ± 0.00	3.00 ± 0.00	3.00 ± 0.00	***2.46 ± 0.04	***1.42 ± 0.15
G4: Phytocee 100	3.00 ± 0.00	3.00 ± 0.00	***2.50 ± 0.00	***2.00 ± 0.00	***1.42 ± 0.15

Values are expressed as Mean ± SEM; n=12; ***p<0.001 (significantly decreased) as compared to Week 0 based on Repeated Measures two-way ANOVA followed by Bonferroni Test

Group	Rumen Motility				
	Week 0	Week 1	Week 2	Week 3	Week 4
G1: Control	5.33 ± 0.13	5.50 ± 0.12	5.54 ± 0.14	5.21 ± 0.11	5.63 ± 0.20
G2: Phytocee 50	5.29 ± 0.20	5.50 ± 0.18	5.54 ± 0.11	5.29 ± 0.16	*5.92 ± 0.16
G3: Phytocee 75	5.08 ± 0.28	5.63 ± 0.14	5.42 ± 0.17	5.54 ± 0.10	**5.88 ± 0.18
G4: Phytocee 100	4.96 ± 0.26	*5.58 ± 0.08	5.50 ± 0.12	*5.67 ± 0.11	***6.21 ± 0.22

Values are expressed as Mean ± SEM; n=12; *p<0.05, **p<0.01 and ***p<0.001 (significantly increased) as compared to Week 0 based on Repeated Measures two-way ANOVA followed by Bonferroni Test

CONCLUSIONS

PHYTOCEE® supplementation at 100 g/animal/day effectively improved the rumen motility and panting score during the treatment period as compared to week 0 (pretreatment).

OUTCOME

Hence, supplementation of PHYTOCEE® at 100 g/animal/day could be recommended for alleviation of heat stress conditions in dairy cows under field conditions.