

EFFECT OF AMAFERM® ON PERFORMANCE OF LACTATING DAIRY COWS DURING PERIODS OF HEAT STRESS

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Cows receiving AMAFERM had improved milk yields in early lactation and overall. The response was most pronounced during times of high ambient temperatures.

SUMMARY

DOSE OF AMAFERM USED

3g per head, per day

AMAFERM, when added to the diets of lactating Holstein cows, improved milk production during early lactation (0-60 days) and overall (0-120 days). This improvement was more pronounced during heat stress when the temperature was greater than 32.2°C. Overall and in early lactation, cows showed increases in respiration rate and rectal temperature with AMAFERM in their diet.

VALUE

AMAFERM improved 4% fat corrected milk (FCM) yield by 3.7% during 0-120 days in milk (DIM). The response was most pronounced during early lactation or 0-60 DIM – an increase of 12.0% – even while exhibiting signs of heat stress (temperature > 32.2°C).

PROTOCOL

Type of Animals/Experimental Units

- Two groups of Holstein cows divided by days in lactation: 0-60 DIM and 60-120 DIM

Number of Animals/Experimental Units

- 100 head



PROTOCOL (CONTINUED)

Trial Design

- Randomized block design

Treatments

- Control
- Control + AMAFERM

Diet Information (General)

- Not published

Data Collection

- Milk production, fat and protein, DMI, rectal temperature, ambient temperature and respiration rate

DISCUSSION OF RESULTS

- There were no differences in fat, protein and somatic cell content
- Milk yields of 4% FCM were greater ($P < 0.05$) for the AMAFERM group, both in early lactation (30.1 vs. 33.7kg) and overall (29.6 vs. 30.7kg)
- Milk yields of 4% FCM were not significantly different in later lactation (Table 1)
- The AMAFERM response was most pronounced during times of high ambient temperatures
- When daily ambient temperatures exceeded 32.2°C:
 - Cows fed AMAFERM had greater respiration rates ($P < 0.05$) and higher rectal temperatures, overall and during early lactation
 - No differences in respiration or rectal temperature were found in later lactation (Table 2)

Table 1
4% fat corrected milk by stage of lactation and overall (data pulled from abstract).

	Control	AMAFERM
Early Lactation	30.1 ^a	33.7 ^b
Mid-Lactation	29.1	27.9 ^b
Overall	29.6 ^a	30.7 ^b

^{a, b} Significant at $P < 0.05$



<i>Table 2</i> Respiration rates and rectal temperatures by stage of lactation and overall when temperatures exceeded 32.2°C (data pulled from abstract).			Control	AMAFERM
	Early Lactation	Respiration, per minute	76.2 ^a	81.8 ^b
		Rectal Temperature, °C	39.08 ^a	39.34 ^b
	Mid Lactation	Respiration, per minute	79.2	83.2
		Rectal Temperature, °C	39.01	39.07
	Overall	Respiration, per minute	77.8 ^a	82.4 ^b
		Rectal Temperature, °C	39.06 ^a	39.22 ^b

^{a, b} Significant at $P < 0.05$

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