Research Bulletin D-34

A-MAX Concentrate China Dairy Research Trial in Early Lactation

Introduction: A research trial was conducted in China on San Yuan Dairy Farms.

Objective: To examine the effects of inclusion of A-MAX™ Concentrate in rations for early lactation dairy cows.

Materials & Methods: 150 high yield Holstein dairy cows were selected and allotted to one of three treatments as shown b elow The animals were allotted considering parity, lactation days, and milk yield. The comparison is noted in table one. The three treatments were:

- Control diet no yeast added (Control)
- Control diet plus 60 grams per head per day of A-MAX Concentrate (A-MAX)
- Control diet plus 60 grams per head per day of Leading Brand of yeast culture (LB)

The cows were fed using TMR and were housed in a free stall barn. The allowance for dry matter intake was 25 kg/cow/day. The trial lasted for 150 days, from October 1, 2006 to Feb 28, 2007. The first 30 days were used as adaption period and then the animals were tested for 4 months. The management was the same for all animals with 3 times per day milking. The ration was the same for all animals with the exception of the yeast product added. Milk yield, protein, fat, and somatic cell count were recorded during the experiment.

Results: Complete results are shown in Tables 2 to 5 and Figures 1 and 2. The results show that the milk yield of the control group was decreased constantly during the experiment, while the milk yields of the groups with yeast culture were increased initially, so their milk production peaked higher. The cows fed A-MAX and LB had average milk yield of 2.7 and 1.7 kg/day higher than control treatment, respectively. There were no differences in the milk fat levels between the treatments. The cows on A-MAX had numerically higher milk proteins as compared to the other treatments. The results showed that there were no obvious differences in SCC between the three treatments. The dry matter intake was in the range of 24-25 kg/day for all treatments, so there were no significant differences.

Conclusions: Adding A-MAX into the ration increased milk production by 2.7 kg/day over the control treatment and 1.0 kg/day over the treatment with a leading brand of yeast culture added.

Figure 1: Milk Production kg/day

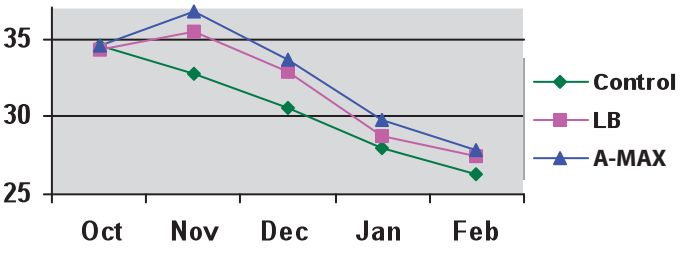
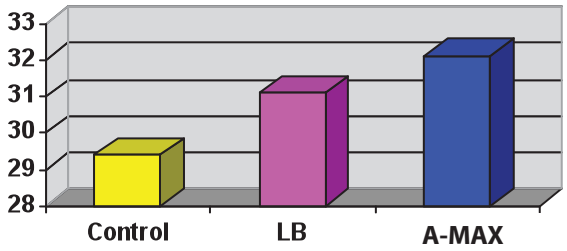


Figure 2: Average Milk Production kg/day



Results Tables:

Table 1: Initial status of cows at beginning of experiment

Treatment	Average Parity	Days in Lactation	Avg. Milk Yield
Control	2.45	135	34.5
A-MAX™	2.43	128	34.3
LB	2.39	130	34.5

Table: 2: Milk Yield kg/day

Treatment	Oct	Nov	Dec	Jan	Feb	Average
Control	34.5	32.7	30.6	28.0	26.3	29.4
A-MAX	34.5	36.8	33.7	29.8	27.9	32.1
LB	34.3	35.4	32.9	28.8	27.4	31.1

Table 3: Milk Quality – Fat %

Treatment	Oct	Nov	Dec	Jan	Feb	Average
Control	3.31	3.45	3.87	3.75	4.13	3.80
A-MAX	3.33	3.61	3.97	3.66	4.23	3.87
LB	3.41	3.70	3.80	3.80	4.23	3.86

Table 4: Milk Quality – Protein %

Treatment	Oct	Nov	Dec	Jan	Feb	Average
Control	2.90	2.97	3.14	3.26	3.29	3.17
A-MAX	3.09	3.21	3.29	3.27	3.17	3.23
LB	2.94	3.05	3.18	3.26	3.19	3.17

Table 5: Milk Quality – SCC CFU/gram

Treatment	Oct	Nov	Dec	Jan	Feb	Average
Control	200,000	244,000	195,000	243,000	288,000	227,500
A-MAX	222,000	205,000	224,000	304,000	211,000	238,500
LB	194,000	240,000	291,000	203,000	247,000	242,700