CHAPTER 3

RESULTS

The current study investigated the environmental effects on milk production of commercial dairy farms. The herd structure of the studied dairy farms in Chittagong areas is presented in Table 1.

Table 1: Herd structure of studied dairy farm in Chittagong area

Name of the farm	Farm Size	No. of milch cows	No. of dry cows	No. of heifers	No. of calves	Total milk yield
Super Dairy	100	65(65%)	7(7%)	11(11%)	17(17%)	325
Moinuddin Dairy	62	48(77.42%)	4(6.45%)	6(9.68%)	4(6.45%)	290
Shahnaj Dairy	53	29(54.72%)	6(11.32%)	7(13.21%)	11(20.75%)	245
Jarif Dairy	55	33(60%)	5(9.09%)	11(20%)	6(10.91%)	260
Yusuf Dairy	58	31(53.45%)	6(10.34%)	12(20.69%)	9(15.52%)	265
Liza Dairy	110	67(60.91%)	12(10.91%)	17(15.45%)	14(12.73%)	330
Bhuiyaan Dairy	51	30(58.82%)	8(15.69%)	8(15.69%)	5(9.80%)	250
Jahan Dairy	65	43(66.15%)	7(10.77%)	10(15.38%)	5(7.69%)	305
Ajijia Dairy	48	23(47.92%)	5(10.42%)	9(18.75%)	11(22.92%)	225
Bandhan Dairy	50	18(36%)	15(30%)	2(4%)	15(30%)	245
Khamar Dairy	78	53(67.95%)	7(8.97%)	12(15.38%)	6(7.69%)	275
Molla Dairy	170	72(42.35%)	8(4.71%)	23(13.53%)	27(15.88%)	605

Table 1 showed that the total number of cattle was higher at Molla Dairy farm however milking cows percentage was lower than Mohiuddin, and Jahan dairy farm. Higher percentages of milch cows were observed at Moinuddin Dairy farm however milking percentage was lower than Molla, Liza, Super Dairy farm. The highest percentages of dry cows were observed at Shahnaj Dairy farm whereas milking percentage was lower.

The current study was investigated the correlation between milk yield and environmental parameters : lighting, fan, temperature, humidity (presented in Table 2).

Table 2: Correlation between milk yield and environmental parameters (lighting, fan, temperature, humidity)

Traits	MY	Light	Fan	Temperature	Humidity
MY	1.00	0.17	0.10	-0.23	-0.27
Light		1.00	0.70	0.31	-0.03
Fan			1.00	0.42	-0.22
Temperature				1.00	-0.24
Humidity					1.00

Legend: MY= Milk yield

In Table 2, it was seen that the correlation between milk yield with light and fan was positive but temperature and humidity was negative. Similarly, light had positive correlation with fan (0.70) and temperature (0.31) whereas negative correlation with humidity (-0.03). In case of fan positive correlation with temperature (0.42) and negative correlation with humidity (-0.22) was observed. Temperature was negatively correlated with humidity (-0.24). It was indicated in Table 2 that all of the traits were negatively correlated with humidity. After all increasing humidity percentage will be resulted to decrease milk production.

Table 3 presented overall percentages using of water source, bedding material and flooring system in dairy farms.

Table 3: Overall percentages of water source, bedding material and flooring system using in dairy farm

Water Source		**Bedding Material**		**Flooring System**	
Deep Water	Pond Water	Present (Rubber Matt)	Absent	Rough	Smooth
11(91.67%)	1 (8.33%)	7 (58.33%)	5 (41.67%)	8 (66.67%)	4 (33.33%)

Table 3 stated that about 91.6% farms were used water from deep and rest of the farms was used water from pond source. In dairy farms, they commonly used rubber matt as a bedding material and about 58.33% dairy farms were used rubber matt and 41.67% farms, they didn't used any bedding materials. In flooring system, it was found 66.67% farms had rough flooring system and rest of the farms had smooth flooring system.

The study also investigated correlation of milk yield with others environmental parameters like Feed passage, water passage, shed height, that are presented in Table 4.

Table 4: Analysis of correlation between milk yield and environmental parameters (Feed passage, water passage, shed height)

Traits	MY	FP(Width)	FP(Length)	WP(Width)	WP(Length)	Shed height
MY	1.00	-0.03	-0.05	0.43	-0.21	-0.07
FP(Width)		1.00	0.33	0.25	0.04	0.07
FP(Length)			1.00	-0.03	0.73	0.52
WP(Width)				1.00	-0.03	-0.07
WP(Length)					1.00	-0.01
Shed Height						1.00

Legends: MY=Milk yield; FP= Feed passage; WP= Water passage

Milk yield had positive correlation with feed passage (width) 0.43 but others like feed passage length (-0.03) and width (-0.05), shed height (-0.07) showed negative correlation with milk yield. Like that FP (Width) had positive correlation with all the parameters such as FP (Length) (0.33), WP (Width) (0.25), and WP (Length) (0.04), Shed height (0.07). FP (Length) had positively correlated with WP (Length) (0.73), Shed height (0.52) and negatively correlated with WP (Width). The correlation between WP (Width) and WP (Length) was negative (-0.03) including negative (-0.01) correlation between WP (Length) and Shed height.