



Cost of Producing Milk in Jamaica in 2008

Ffrench D.L, R.C. Miller, P.G.Jennings
October 21,2009

<http://www.moa.gov.jm>



Methodology

- Primary data source (Pro- Forma sent to Farmers).
- Financial data grouped in the following categories:
 - Revenue
 - Operating Costs
 - Cost per litre
 - Gross Margin
 - Fixed Costs



CLASSIFICATION OF FARMS

		Designation	
	Size	Irrigated	Non-irrigated
Small	<10 cows	SI (0)	SNI (0)
Medium	10-99 cows	MI (3)	MNI (8)
Large	>100 cows	LI (1)	LNI (6)

Total number of participants = 14



Analytical Procedures

- Compare relative production cost for milk in all categories of farm size.
- Compare major cost components as a proportion of variable cost.
- Compare milk production at various stocking density across farms.



Variable Costs

- Variable costs (operating costs) are expenses that change in proportion to the quantity of output of a business.
- Variable costs include concentrate and other feeds, fertilizer, pasture maintenance, labour, veterinary services, chemicals, utilities, haulage, contract services and miscellaneous costs.



Gross Margin

- Income above operating cost or contribution to fixed cost.
- Another way of viewing is income after variable cost.
- $\text{Gross Margin} = \text{Revenue} - \text{Variable costs}$



Fixed Costs

- Fixed costs or overheads. These costs do not change with level of output.
- Includes: Land charge, depreciation, interest on livestock investment, management costs.
- The costs associated with owning a fixed input.



Table 1: COMPARISON OF VARIABLE COST PER LITRE AMONG FARM SIZES

Category (N)	Direct Cost/litre
MNI (6)	36.56
MI (2)	38.88
LNI (5)	51.72
LI (1)	36.24
Weighted Average	38.59



TABLE 2: COMPARISON OF MEAN STOCKING RATES AND PRODUCTION /HA AMONG FARM SIZES

Category	Average Stocking (Cows/ha)	Production Litres/ha
MNI	1.91	3,455.59
MI	2.05	2,580.94
LNI	1.56	3,354.63
LI	3.13	8,914.73
Overall Mean	2.06	4,867.10

TABLE 3: COMPARISON OF LOCAL AND INTERNATIONAL COSTS OF PRODUCING MILK

Category	2003	2004	2005	2006	2007	2008
AVC Ja. (J\$)	17.05	19.13	22.09	23.70	30.56	38.59
(US\$)	0.29	0.31	0.35	0.36	0.44	0.53
Farm Gate Ja. (J\$)	18.00	20.00	22.63	26.00	28.33	41.84
(US\$)	0.31	0.33	0.36	0.39	0.41	0.57
AVC USA (US\$)	0.23	0.23	0.25	0.26	0.30	0.36
Farm Gate USA (US\$)	0.28	0.35	0.34	0.29	0.43	0.41
Retail Price Ja. (J\$)	68.00	71.37	76.00	81.00	118.17	144.38
(US\$)	1.17	1.16	1.20	1.23	1.71	1.98
Mark-up (%)	299	273	244	242	287	245
Retail Price USA (US\$)	0.73	0.83	0.84	0.81	0.92	1.00
Mark-up (%)	161	137	147	179	114	144
AVC NZ (US\$)	0.15- 0.18	0.15- 0.18	N/A	0.14	N/A	N/A
Farm Gate NZ (US\$)				0.21	0.31	0.37
NB. Retail prices (USA.): Brian Gould, Agricultural & Applied Economics, UW Madison						

TABLE 4: COMPARISON OF AVERAGE VARIABLE COSTS OVER THE PAST 7 YEARS ON MEDIUM & LARGE FARMS

Items	2002	2003	2004	2005	2006	2007	2008
AVC/(J\$)	17.02	16.05	19.13	22.32	23.70	30.56	38.59
AV. Fm. Gate Price	22.14	20.00	22.00	24.00	26.00	28.33	41.84
AVC/Ja. (US\$)	0.36	0.29	0.31	0.35	0.39	0.41	0.53
Irrigated farms	21.31	17.42	25.51	18.42	20.25	27.91	38.00
Non-Irr.	18.83	16.04	19.63	25.90	27.66	31.45	42.62
Org. Margin	21%	11%	4.5%	-3.0%	11.0%	-5.0%	8.0%



Table 5: Comparison Of Main Components of Variable Cost (%)

Category & Farm Size	Feed	Utilities	Labour	V/Med.	Past & Fert.
MNI	37.8	10.3	26.5	1.67	0.3
MI	26.5	21.0	25.0	2.5	1.5
LNI	34.8	5.0	18.0	2.6	2.8
LI	48.0	6.0	16.0	6.0	5.0
MEAN	35.9	9.6	22.5	2.4	1.7

TABLE 6: CHANGES IN PROPORTION (%) OF VARIABLE COST DUE TO THE VARIOUS INPUT CATEGORIES

Category	2003	2004	2005	2006	2007	2008
Feed	38.0	39.0	39.0	29.9	33.1	35.9
Utilities	7.0	7.0	7.0	6.5	10.1	9.6
Labour	21.0	13.0	13.0	24.3	16.9	22.5
Vet. & Med.	4.0	3.0	3.0	3.4	4.3	2.4
Past. Maint. & Fert.	5.0	4.0	4.0	5.38	2.3	1.7
Org. Margin (%)	11.0	4.5	-3.0	11.0	-5.0	8.0



TABLE 7: COMPARISON OF AVERAGE GROSS MARGIN/LITRE AMONG FARM SIZES

Category	Stocking Rate (cows/ha)	Av. GM. /litre (J\$)
MNI	1.9	8.56
MI	2.1	2.38
LNI	1.6	-1.18
LI	3.1	7.45



Summary and Conclusions

- Average variable cost was J\$ 38.59, an increase of 21% over 2007.
- Non - irrigated farms averaged J\$ 42.62.
- Irrigated farms averaged J\$ 38.00, ie 11% better than non-irrigated farms.
- Large and medium farms margin 8.0 percent.



Conclusions

- Fifty percent (50%) of farmers in the survey produced milk marginally above variable cost.
- In the main, there was not sufficient margin to cover overhead.
- High input costs particularly energy and feed were the main contributors.