



Economic Losses due to Delayed Conception in Dairy Animals of Small Farmers in District Gujranwala

by

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Introduction

- Importance of reproductive performance
- Poor reproductive performance of dairy herds
- Additional expenditures for the farmers
- Caused by delayed maturity, high age at first calving, longer calving interval and dry period

Economic losses due to delayed conception

- One day delay in conception causes loss from \$1.24 - \$2.03 in USA
- £2.41 (\$3.96) per day loss in the UK for an average milking cow. £6.52 (\$10.73) per day for a high producing cow



Objectives

- To estimate the share of livestock income on the total income of the farm
- To estimate the composition of labor used in livestock
- To estimate the economic losses associated with delayed conception
- To investigate the reasons for delayed conception

Methodology

Source and Data

- This Study was based on primary data collected from Gujranwala District by Simple Random Sampling Technique
- Small farmers having less than or equal to 12 acres of land
- Three villages from each tehsil
- 10 – 15 respondents from each village
- A total of 80 respondents

Name of tehsils

Name	No. of Farmers	Percent
Gujranwala	40	50.0
Wazirabad	40	50.0
Total	80	100.0

Estimation of Dairy Farm Costs

- Total Cost = Total Fixed Cost + Total Variable Cost
- Total Fixed Cost = Interest and Depreciation on Capital
- Total variable cost = Labor cost + Feed cost + Veterinary care cost + Breeding cost + other c



Cost of Milk Production

Cost of milk per liter = Total Variable Cost / Total Milk Production per Year (Maqsood, 1993).

- Income from Cow Milk = Daily production * price per liter * no. of milking months
- Income from buffalo milk = Daily production * price per liter * no. of milking months
- Total Milk income = Income from cow milk + Income from buffalo milk

Marketable Surplus = Quantity of Milk Produced – Quantity of Milk Consumed at Home

Gross Livestock Income = (Total Milk income) + (Income from the sale and purchase of the animals)

Gross crop Income = Total production of each crop * price of one unit of output

Gross Farm Income = Gross Crop Income + Gross Livestock Income

Estimation of the Losses due to delayed conception

- Voluntary Waiting period
- Age of Maturity
- Number of Days Delayed
- Total Loss at Farm Level = Extra Feed Cost + Extra Labor Cost + Extra Treatment Cost + Extra Breeding Cost + Value of Milk Loss + Value of calf loss
- Per Day Loss at Farm Level = Total Loss / Number of days delayed
- Per day loss per animals = Per day loss / Number of animals

Results and Discussion

Composition of Labor Used in Livestock

Composition of Labor		Mean
Family Labor	Farmers having family labor (No.)	1.08
	Family labor hours per day	8.79
	Family labor wage per day (Rs.)	170.83
Hired Labor	Farmers having hired labor (No.)	1.03
	Hired labor hours per day	11.66
	Hired labor wage per day (Rs.)	175
Per day labor cost / lactating animal		35.20
Per day labor cost / heifer		20.08

Variable Costs in Animal Rearing

Costs (Rs.) / day / animal	Mean
Feeding cost for adults	104
Feeding cost for young stock	48
Veterinary cost for adults	7.71
Veterinary cost for young stock	3.50
Total breeding cost per year at farm	2073

Cow Milk Production and Consumption

Milk Production and Consumption	Mean
Daily milk production (ltr)	14.62
Domestic consumption (ltr)	3.40
Daily sale/ Marketable surplus (ltr)	11.21
Milk price (Rs./ltr)	34
Average lactation period (months)	7.25
Lactation period (days)	218
Total income from cow milk (Rs.)	108159

Buffalo Milk Production and Consumption

Milk Production and Consumption	Mean
Daily milk production (ltr)	25.74
Domestic consumption (ltr)	5.2
Daily sale/ Marketable surplus (ltr)	20.6
Milk price (Rs./ltr)	37
Average lactation period (months)	7.14
lactation period (days)	214
Total income from buffalo's milk (Rs.)	204048

Cost of Production of cow and buffalo milk

(Per liter)

Cost (Rs. / Liter)	Mean
Cost of cow milk	26.77
Cost of buffalo milk	30.12

Share of Livestock Income in Total farm Income

Share	Mean
Total livestock income (Rs.)	259762
Total farm income (Rs.)	672214
Share of livestock income in total farm income (%)	49

Economic Losses of Delayed Conception in Heifers

Loss (PKR)	Mean
Number of heifers delayed	1.62
Services per conception (No.)	3.81
Total loss (Rs.)	51978.2
Days delayed (DD)	198.8
Per day loss to farmer (Rs.)	292.8
Per day loss per heifer (Rs.)	212.5
Per month loss per heifer (Rs.)	6375.8

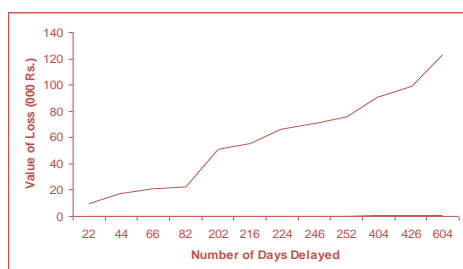


Figure 1. Delayed Conception Losses in Heifers Associated With Days Delayed

Economic Losses of Delayed Conception in Lactating Animals

Loss (PKR)	Mean
Number of lactating animals delayed	2.14
Services per conception (No.)	5.25
Total loss (Rs.)	93147
Days delayed (DD)	214
Per day loss per farmer (Rs.)	455.4
Per day loss per animal (Rs.)	261.1
Per month loss per animal (Rs.)	7833.71

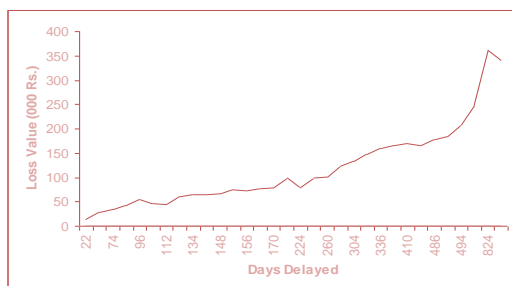


Figure 2. Delayed Conception Losses in Lactating Animals Associated With Days Delayed

Reasons for Delayed Conception in Heifers (Farmer's Perceptions)

Reasons	Number of Farmers	Percent
Poor Feeding	56	70
Diseased Condition	11	13.7
Poor Management	8	10.0
Inseminator Inefficiency	5	6.3
Total	80	100.0

Reasons for Delayed Conception in Lactating Animals (Farmer's Perceptions)

Reasons	Number of Farmers	Percent
Poor Feeding	34	42.5
Diseased Condition	14	17.5
Poor Management	8	10.0
Heat Detection	11	13.8
Inseminator Inefficiency	13	16.2
Total	80	100.0

Suggestions

- Awareness regarding balanced rations and minerals through training and educating formally / informally
- Facilitate the basic needs and introducing better management practices
- Farmers should be trained in order to detect the heat of the animal
- Inseminator should be trained for insemination technique, semen handling and should be educated for semen selection.
- Proper record keeping

Thanks