

# Economic Gains Through Improved Management Of Reproduction and Facilities.

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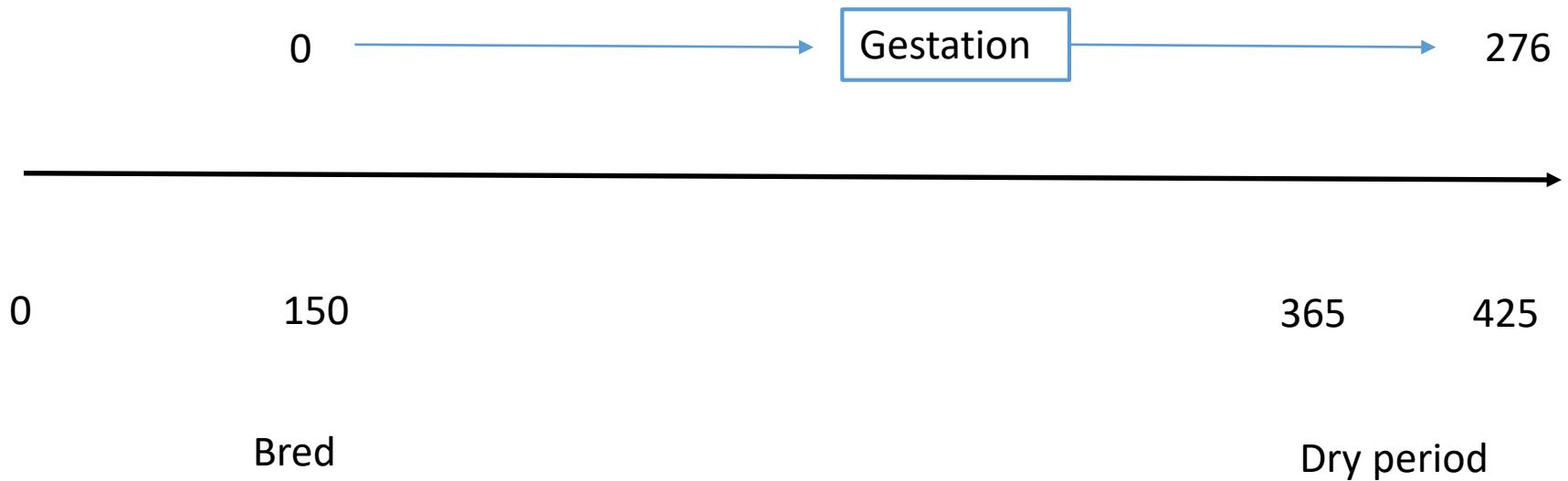
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# Economics of Dairy Cow Reproduction

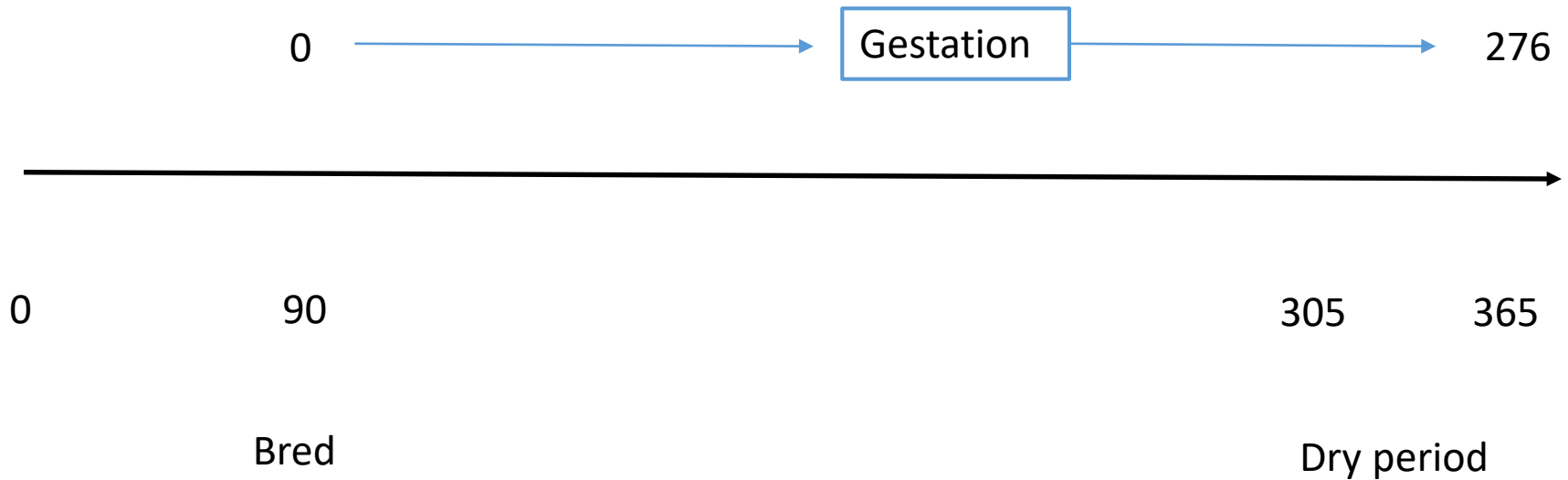
Dairy Science 233

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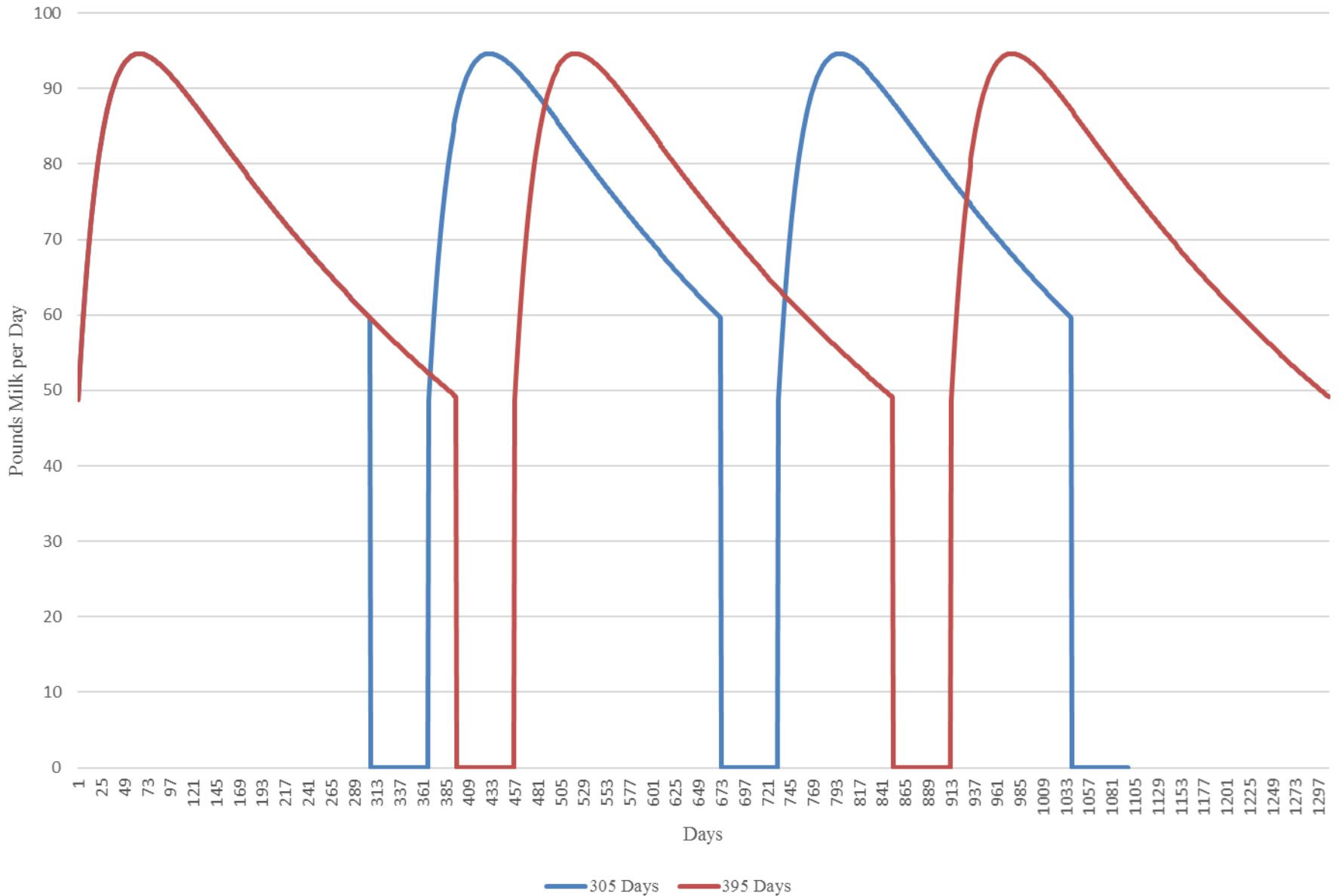
# Dairy Cow Reproduction Timeline



# Dairy Cow Reproduction Timeline



# Daily Milk Production Across Lactations



Year	CF 1	CF 2	CF 3
1	100	500	200
2	100	0	200
3	100	0	200
4	100	0	200
5	100	0	200
6	100	500	
7	100	0	
8	100	0	
9	100	0	
10	100	0	

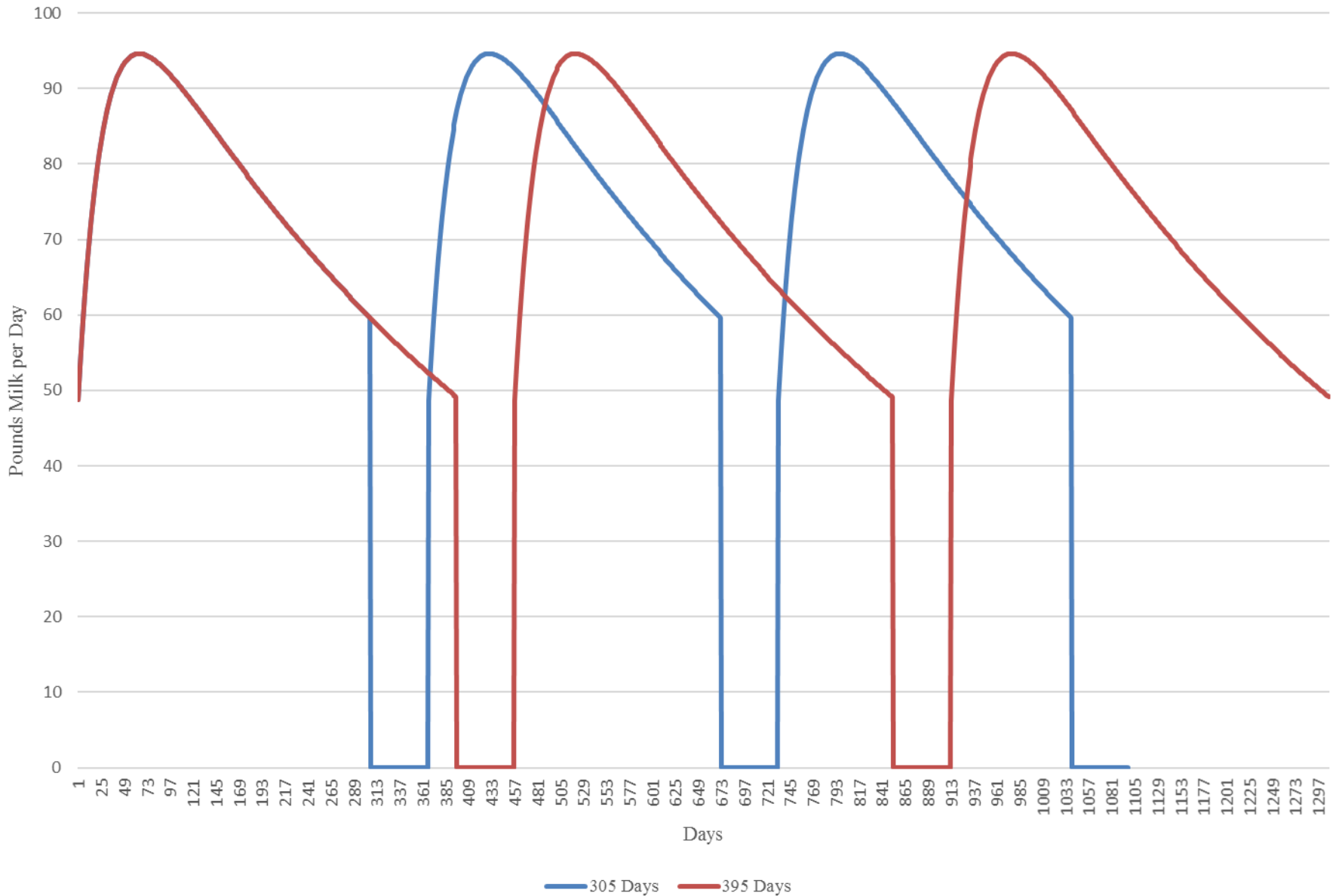


					849.30
				Total PV or FV	
				Int Rate	
				5	
Periods of Discounting or Compounding	Cash Flow 1	Cash Flow 2	Total Cash Flow	Factor	Present Value or Future Value
1	500	0.00	500.00	0.9524	476.19
2	0	0.00	0.00	0.9070	0.00
3	0	0.00	0.00	0.8638	0.00
4	0	0.00	0.00	0.8227	0.00
5	0	0.00	0.00	0.7835	0.00
6	500	0.00	500.00	0.7462	373.11
7	0	0.00	0.00	0.7107	0.00
8	0	0.00	0.00	0.6768	0.00
9	0	0.00	0.00	0.6446	0.00
10	0	0.00	0.00	0.6139	0.00





# Daily Milk Production Across Lactations



	DIM	Return over Feed	Oper Costs	Calf Sale	Death Loss	Net	DEPR			
First lactation	305	1831.35	1749.28	100	0	182.0702	-1156.89		1	-974.821
									2	513.2979
Second + lactations	305	2183.525	1749.28	100	0	534.2448			3	493.1723
									4	602.0726
Final Lactation	305	2183.525	1604.695	100	0	678.8304			5	0
									6	0
									7	0
									8	0
Lactations	4								9	0
									10	0
Cost of Capital	4									
	0.00011								0	633.7219
									Daily	0.488295
									Annual	174.7009

	DIM	Return over Feed	Oper Costs	Calf Sale	Death Loss	Net	DEPR			
First lactation	395	2305.958	2211.22	100	0	194.7382	-1170.16		1	-975.425
									2	453.4913
Second + lactations	395	2587.896	2211.22	100	0	476.6757			3	431.4345
									4	533.7269
Final Lactation	395	2587.896	2068.053	100	0	619.8423			5	0
									6	0
									7	0
									8	0
Lactations	4								9	0
									10	0
Cost of Capital	4									
	0.00011								0	443.2278
									Daily	0.276914
									Annual	99.07365

1		-974.821
2		513.2979
3		493.1723
4		602.0726
5		0
6		0
7		0
8		0
9		0
10		0
0		633.7219
	Daily	0.488295
	Annual	174.7009

1		-975.425
2		453.4913
3		431.4345
4		533.7269
5		0
6		0
7		0
8		0
9		0
10		0
0		443.2278
	Daily	0.276914
	Annual	99.07365

# Stocking Rate Analysis

Milk Price (Per CWT)	17
Feed Cost (\$/lb)	0.09
Variable Cost (\$/HD/Year)	600
Cow Purchase Price	2000
Annual Ownership Cost (%)	30
Pen Size	100

Stocking Rate	Milk/Cow
100	86.88
110	84.88
120	82.67
130	80.23
140	77.54
150	74.56
160	71.27
170	67.64
180	63.62
190	59.19
200	54.29



Stocking Rate	Milk:Feed Ratio		lbs Feed
100	1.3999		62.062
110	1.3888		61.118
120	1.3777		60.007
130	1.3666		58.709
140	1.3555		57.201
150	1.3444		55.458
160	1.3333		53.453
170	1.3222		51.153
180	1.3111		48.525
190	1.3		45.529
200	1.2889		42.122

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180	1.3111		48.525
190	1.3		45.529
200	1.2889		42.122

# RESULTS

Stocking Rate		Milk Income	Feed Cost	Variable Cost	Ownership		Net
100		450,476.74	170,360.52	60,000.00	0.00		220116.23
110		484,117.42	184,545.98	66,000.00	6,000.00		227571.44
120		514,382.17	197,662.75	72,000.00	12,000.00		232719.42
130		540,797.97	209,501.54	78,000.00	18,000.00		235296.43
140		562,829.74	219,821.98	84,000.00	24,000.00		235007.77
150		579,872.59	228,348.24	90,000.00	30,000.00		231524.35
160		591,243.04	234,764.13	96,000.00	36,000.00		224478.90
170		596,169.18	238,707.44	102,000.00	42,000.00		213461.74
180		593,779.71	239,763.53	108,000.00	48,000.00		198016.18
190		583,091.53	237,458.09	114,000.00	54,000.00		177633.44
200		562,995.92	231,248.86	120,000.00	60,000.00		151747.05