

## #11: 700 Cow, Mattress Freestall, Slurry Scrape, Natural Vent. System

**Description:** This 700 cow dairy farm is designed conventionally. The freestall barn has 14' eaves for natural ventilation and mattresses in the stalls so that the barn will fit where sand bedding would be a problem. Manure is scraped to an outside holding area where it is agitated and mechanically separated so that the liquid portion can be applied through irrigation and the solids held for spreading before planting. Cows are milked three times per day in a double 10 rapid exit parallel parlor operated twenty-four hours per day. This dairy is at the maximum size possible without being classified as a CAFO.

### Key Components (see appendix for further description of terms)

<b>Land Base</b>	40 acres	<b>Investment/Cow</b>	\$6,500
<b>Cow Housing</b>	Mattress Freestall Barn	<b>Yearly Revenue/Cow (5 yr. Avg.)</b>	\$3,435
<b>Milking Center</b>	Double 10 Parallel with automation	<b>Yearly Gross Revenue (5 yr. Avg.)</b>	\$2,404,265
<b>Ventilation</b>	Natural	<b>Total Investment</b>	\$4,549,847
<b>Manure Handling System</b>	Slurry Scrape to Outside Covered Storage with Mechanical Separation	<b>Return on Assets (Yr. 5)</b>	7.1%

### Picture Examples



Parallel Milking Parlor



Mattress Freestall System



Natural Ventilation Freestall Barn



Mechanical Separator



<b>Input Summary</b>					
<b>Scenario:</b>	700 Cow Confinement, Mattress Freestall, Slurry Scrape w/ Mech Sep, Natural Vent.				
<b>Production</b>	<b>Your farm</b>		<b>Cow Flow</b>	<b>Year 1</b>	<b>Year 2</b>
Herd size	700	head	Beginning herd	700	700
Calving interval	13.5	months	Cows entering the herd:		
Average days dry for the herd	60	days	Purchases	252	252
Percent cows in milk	85%	percent	Farm-raised replacements	0	0
Annual cull rate	28%	percent	Cows leaving the herd		
Annual death loss	8%	percent	Culls	196	196
Milk per cow per day (year 1)	68.0	lbs.	Sold	0	0
365 day RHA (year 1)	21,193	RHA	Dead	56	56
			Ending herd size	700	700
<b>Expenses</b>	<b>Your farm</b>		<b>Income</b>	<b>Market value</b>	<b>Cull value</b>
Daily feed cost (milking group)(avg)	\$3.40	cow/day	Milking and dry cows	\$2,000	\$500
Daily feed cost(dry cow group)(avg)	\$1.73	cow/day	12-24 months		\$500
Youngstock diets			6-12 months		\$500
0-2 months	\$0.00	cow/day	2-6 months		\$500
2-6 months	\$0.00	cow/day		<b>Your farm</b>	
6-12 months	\$0.00	cow/day	Milk price	\$15.09	\$/cwt
12-24 months	\$0.00	cow/day	Yearly coop dividend	\$0.00	\$/cwt
Labor costs (year 1)			Bull calf selling price	\$100	\$/head
Hourly labor	\$189,280	dollars	Heifer calf selling price	\$400	\$/head
Salaried labor	\$85,000	dollars	Crop grain sales	\$0	dollars
Annual benefits	\$20,982	dollars	Government payments	\$0	dollars
Total labor	\$295,262	dollars	Other farm income	\$0	dollars
Seed expenses	\$0	dollars	<b>Balance Sheet</b>	<b>Beginning balance for:</b>	
Fertilizer and chemicals	\$0	dollars		<b>January 1</b>	
Marketing costs			<b>Current assets:</b>		
Federal assessment	\$0.00	\$ per cwt.	Cash	\$35,000	dollars
Advertising	\$0.15	\$ per cwt.	Commodities for sale and feed	\$35,000	dollars
Coop Fee	\$0.10	\$ per cwt.	Feeder livestock and cull cows	\$0	dollars
Hauling	\$0.60	\$ per cwt.	Supplies and prepaid expenses	\$35,000	dollars
Annual per cow costs			Investment in growing crops	\$0	dollars
DHI testing	\$16	\$ per cow	Accounts receivable and other	\$0	dollars
Artificial insemination	\$45	\$ per cow	Other current assets	\$0	dollars
Veterinarian, hoof trimming & BST	\$133	\$ per cow	<b>Non-current assets:</b>		
Medicine	\$63	\$ per cow	Farm and equipment:		
Farm supplies and bedding	\$68	\$ per cow	Land	\$112,000	dollars
Fuel & oil	\$20	\$ per cow	Non-farm real estate	\$0	dollars
Utilities	\$60	\$ per cow	Buildings	\$2,426,043	dollars
Annual costs			Equipment	\$319,200	dollars
Non-dairy farm supplies	\$2,400	dollars	Autos & trucks	\$0	dollars
Non-dairy fuel and oil	\$2,400	dollars	Other assets		dollars
Non-dairy utilities	\$0	dollars	Investment in coops	\$0	dollars
Building repairs	\$10,000	dollars	Contract receivables	\$0	dollars
Machinery and equipment repairs	\$10,000	dollars	Other	\$0	dollars
Rent	\$0	dollars		<b>Beginning balance for:</b>	
Taxes (real estate and p.p.)	\$10,000	dollars	<b>Current liabilities:</b>	<b>January 1</b>	
Farm insurance	\$10,000	dollars	Accounts payable, feed dealers	\$0	dollars
Legal & professional fees	\$2,500	dollars	Accounts payable, trade	\$0	dollars
Custom hire	\$0	dollars	Accrued interest	\$0	dollars
Car and truck costs	\$2,400	dollars	Payroll taxes & wages	\$0	dollars
Contract heifer rearing	\$0	dollars	Operating note	\$0	dollars
Other expense	\$0	dollars	Estimated current portion of debt	\$0	dollars
			Other current liabilities	\$0	dollars
			<b>Long-term Debt:</b>		
			Bank note	\$0	dollars
			Real estate note	\$0	dollars
			Other long-term debt	\$0	dollars

## SE Missouri Dairy

## Dairy Enterprise Budget (5-year Avg.)

## 700 Cow Confinement, Mattress Freestall, Slurry Scrape w/ Mech Sep, Natural Vent.

	Herd	Per Cow	Per CWT	Percent
<b>INCOME FROM OPERATIONS:</b>				
Milk sales	\$2,251,820	\$3,217	\$15.09	93.7%
Sales of youngstock & calves	\$152,444	\$218	\$1.02	6.3%
Other farm income	\$0	\$0	\$0.00	0.0%
Patronage dividend	\$0	\$0	\$0.00	0.0%
Total Gross Receipts	\$2,404,265	\$3,435	\$16.11	100.0%
<b>OPERATING EXPENSES:</b>				
Feed:				
Feedstuffs	\$858,384	\$1,226	\$5.75	39.1%
Less feed for heifers	\$0	\$0	\$0.00	0.0%
Total feed	\$858,384	\$1,226	\$5.75	39.1%
<b>Herd replacement costs:</b>				
Depreciation--dairy cows	\$227,912	\$326	\$1.53	10.4%
Loss on sale of cows	\$128,059	\$183	\$0.86	5.8%
Total herd replacement costs	\$355,971	\$509	\$2.39	16.2%
<b>Other operating expenses:</b>				
Labor (includes benefits & SS)	\$310,399	\$443	\$2.08	14.2%
Marketing 1/	\$126,842	\$181	\$0.85	5.8%
DHI testing	\$11,200	\$16	\$0.08	0.5%
Artificial insemination	\$31,500	\$45	\$0.21	1.4%
Veterinary, hoof trimming & BST	\$93,100	\$133	\$0.62	4.2%
Medicine	\$44,100	\$63	\$0.30	2.0%
Supplies and bedding	\$50,040	\$71	\$0.34	2.3%
Fuel & oil	\$14,000	\$20	\$0.09	0.6%
Utilities	\$44,153	\$63	\$0.30	2.0%
Repairs--Buildings	\$10,000	\$14	\$0.07	0.5%
Repairs--Machinery & equipment	\$10,000	\$14	\$0.07	0.5%
Rent	\$0	\$0	\$0.00	0.0%
Farm taxes (R.E. & personal prop)	\$10,513	\$15	\$0.07	0.5%
Farm insurance	\$10,513	\$15	\$0.07	0.5%
Legal & professional fees	\$2,628	\$4	\$0.02	0.1%
Custom hire	\$0	\$0	\$0.00	0.0%
Car and truck costs	\$2,400	\$3	\$0.02	0.1%
Other	\$0	\$0	\$0.00	0.0%
Interest	\$0	\$0	\$0.00	0.0%
Depreciation	\$207,336	\$296	\$1.39	9.5%
Less other expenses for raising heifers	\$0	\$0	\$0.00	0.0%
Total other operating expenses	\$978,724	\$1,398	\$6.56	44.6%
<b>TOTAL OPERATING EXPENSES</b>	<b>\$2,193,080</b>	<b>\$3,133</b>	<b>\$14.70</b>	<b>100.0%</b>
<b>NET INCOME FROM OPERATIONS</b>	<b>\$211,185</b>	<b>\$302</b>	<b>\$1.42</b>	
1/ Includes milk hauling, state and federal promotion, coop/marketing fees, and the cost of marketing beef.				