

## #19: 200 Cow, Sand Bedded Freestall, Slurry Scrape, Mech. Vent. System

**Description:** This 200-cow dairy farm is designed to withstand the heat and humidity of Southeast Missouri by using rows of fans to mechanically ventilate the cow housing. The freestall barn has sand in the stalls for maximum cow health. Sand laden 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, the organic solids held for spreading before planting and the sand reused. Cows are milked in a low-cost, labor-efficient parabone swing parlor with 12 milker units operated by one person.

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

<b>Land Base</b>	10 acres	<b>Investment/Cow</b>	\$7,540
<b>Cow Housing</b>	Sand Bedded Freestall	<b>Yearly Revenue/Cow (5 yr. Avg.)</b>	\$3,523
<b>Milking Center</b>	Double 12 Parabone Swing	<b>Yearly Gross Revenue (5 yr. Avg.)</b>	\$704,674
<b>Ventilation</b>	Mechanical	<b>Total Investment</b>	\$1,507,917
<b>Manure Handling System</b>	Slurry Scrape to Outside Separators (Sand & Solid/Liquid) and Covered Storage	<b>Return on Assets (Yr. 5)</b>	5.7%

### Picture Examples



Parabone Swing Milking Parlor



Sand Bedded Freestall System



Mechanical Ventilation Freestall Barn



Mechanical Separator



## Input Summary

Scenario:	200 Cow Confinement, Sand Bedded Freestall, Mech. Sep., Mechanical Vent.				
Production	Your farm		Cow Flow	Year 1	Year 2
Herd size	200	head	Beginning herd	200	200
Calving interval	13.5	months	Cows entering the herd:		
Average days dry for the herd	60	days	Purchases	70	70
Percent cows in milk	85%	percent	Farm-raised replacements	0	0
Annual cull rate	27%	percent	Cows leaving the herd		
Annual death loss	8%	percent	Culls	54	54
Milk per cow per day (year 1)	72.0	lbs.	Sold	0	0
365 day RHA (year 1)	22,440	RHA	Dead	16	16
			Ending herd size	200	200
Expenses	Your farm		Income	Market value	Cull value
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			
6-12 months	\$0.00	cow/day		Your farm	
12-24 months	\$0.00	cow/day	Milk price	\$14.69	\$/cwt
Labor costs (year 1)			Yearly coop dividend	\$0.00	\$/cwt
Hourly labor	\$33,280	dollars	Bull calf selling price	\$100	\$/head
Salaried labor	\$35,000	dollars	Heifer calf selling price	\$400	\$/head
Annual benefits	\$5,223	dollars	Crop grain sales	\$0	dollars
Total labor	\$73,503	dollars	Government payments	\$0	dollars
Seed expenses	\$0	dollars	Other farm income	\$0	dollars
Fertilizer and chemicals	\$0	dollars			
Marketing costs			Balance Sheet	Beginning balance for:	
Federal assessment	\$0.00	\$ per cwt.		January 1	
Advertising	\$0.15	\$ per cwt.	Current assets:		
Coop Fee	\$0.10	\$ per cwt.	Cash	\$10,000	dollars
Hauling	\$0.60	\$ per cwt.	Commodities for sale and feed	\$10,000	dollars
Annual per cow costs			Feeder livestock and cull cows	\$0	dollars
DHI testing	\$16	\$ per cow	Supplies and prepaid expenses	\$10,000	dollars
Artificial insemination	\$45	\$ per cow	Investment in growing crops	\$0	dollars
Veterinarian, hoof trimming & BST	\$133	\$ per cow	Accounts receivable and other	\$0	dollars
Medicine	\$63	\$ per cow	Other current assets	\$0	dollars
Farm supplies and bedding	\$95	\$ per cow	Non-current assets:		
Fuel & oil	\$20	\$ per cow	Farm and equipment:		
Utilities	\$60	\$ per cow	Land	\$28,000	dollars
Annual costs			Non-farm real estate	\$0	dollars
Non-dairy farm supplies	\$1,200	dollars	Buildings	\$697,924	dollars
Non-dairy fuel and oil	\$1,200	dollars	Equipment	\$300,200	dollars
Non-dairy utilities	\$0	dollars	Autos & trucks	\$0	dollars
Building repairs	\$5,000	dollars	Other assets		dollars
Machinery and equipment repairs	\$5,000	dollars	Investment in coops	\$0	dollars
Rent	\$0	dollars	Contract receivables	\$0	dollars
Taxes (real estate and p.p.)	\$1,500	dollars	Other	\$0	dollars
Farm insurance	\$2,000	dollars		Beginning balance for:	
Legal & professional fees	\$1,000	dollars	Current liabilities:	January 1	
Custom hire	\$0	dollars	Accounts payable, feed dealers	\$0	dollars
Car and truck costs	\$2,400	dollars	Accounts payable, trade	\$0	dollars
Contract heifer rearing	\$0	dollars	Accrued interest	\$0	dollars
Other expense	\$0	dollars	Payroll taxes & wages	\$0	dollars
			Operating note	\$0	dollars
			Estimated current portion of debt	\$0	dollars
			Other current liabilities	\$0	dollars
			Long-term Debt:		
			Bank note	\$0	dollars
			Real estate note	\$0	dollars
			Other long-term debt	\$0	dollars

## SE Missouri Dairy

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

## 200 Cow Confinement, Sand Bedded Freestall, Mech. Sep., Mechanical Vent.

	Herd	Per Cow	Per CWT	Percent
<b>INCOME FROM OPERATIONS:</b>				
Milk sales	\$661,119	\$3,306	\$14.69	93.8%
Sales of youngstock & calves	\$43,556	\$218	\$0.97	6.2%
Other farm income	\$0	\$0	\$0.00	0.0%
Patronage dividend	\$0	\$0	\$0.00	0.0%
Total Gross Receipts	\$704,674	\$3,523	\$15.66	100.0%
<b>OPERATING EXPENSES:</b>				
Feed:				
Feedstuffs	\$245,253	\$1,226	\$5.45	37.5%
Less feed for heifers	\$0	\$0	\$0.00	0.0%
Total feed	\$245,253	\$1,226	\$5.45	37.5%
<b>Herd replacement costs:</b>				
Depreciation--dairy cows	\$64,167	\$321	\$1.43	9.8%
Loss on sale of cows	\$35,223	\$176	\$0.78	5.4%
Total herd replacement costs	\$99,389	\$497	\$2.21	15.2%
<b>Other operating expenses:</b>				
Labor (includes benefits & SS)	\$77,272	\$386	\$1.72	11.8%
Marketing 1/	\$38,254	\$191	\$0.85	5.8%
DHI testing	\$3,200	\$16	\$0.07	0.5%
Artificial insemination	\$9,000	\$45	\$0.20	1.4%
Veterinary, hoof trimming & BST	\$26,600	\$133	\$0.59	4.1%
Medicine	\$12,600	\$63	\$0.28	1.9%
Supplies and bedding	\$19,869	\$99	\$0.44	3.0%
Fuel & oil	\$4,000	\$20	\$0.09	0.6%
Utilities	\$12,615	\$63	\$0.28	1.9%
Repairs--Buildings	\$5,000	\$25	\$0.11	0.8%
Repairs--Machinery & equipment	\$5,000	\$25	\$0.11	0.8%
Rent	\$0	\$0	\$0.00	0.0%
Farm taxes (R.E. & personal prop)	\$1,577	\$8	\$0.04	0.2%
Farm insurance	\$2,103	\$11	\$0.05	0.3%
Legal & professional fees	\$1,051	\$5	\$0.02	0.2%
Custom hire	\$0	\$0	\$0.00	0.0%
Car and truck costs	\$2,400	\$12	\$0.05	0.4%
Other	\$0	\$0	\$0.00	0.0%
Interest	\$0	\$0	\$0.00	0.0%
Depreciation	\$89,414	\$447	\$1.99	13.7%
Less other expenses for raising heifers	\$0	\$0	\$0.00	0.0%
Total other operating expenses	\$309,954	\$1,550	\$6.89	47.4%
<b>TOTAL OPERATING EXPENSES</b>	<b>\$654,597</b>	<b>\$3,273</b>	<b>\$14.55</b>	<b>100.0%</b>
<b>NET INCOME FROM OPERATIONS</b>	<b>\$50,077</b>	<b>\$250</b>	<b>\$1.11</b>	
1/ Includes milk hauling, state and federal promotion, coop/marketing fees, and the cost of marketing beef.				