

## #29: 600 Cow Grazing Dairy with Center Pivot System

**Description:** This 600 cow dairy production system for Southeast Missouri uses intensive rotational grazing technology to pasture dairy cows on 30 or more paddocks under center pivot irrigation. The seasonally calved herd is dry in the winter. The milking center is a low cost, high throughput parlor, where two men capable of milking all the cows in 3.5 hours. Twelve pounds of feed is fed in the parlor during milking. Additional hay and silage is purchased to be fed outside the growing season.

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

<b>Land Base</b>	420 Acres	<b>Investment/Cow</b>	\$5,269
<b>Cow Housing</b>	Open Paddocks	<b>Yearly Revenue/Cow (5 yr. Avg.)</b>	\$2,157
<b>Milking Center</b>	Parabone 48 Swing	<b>Yearly Gross Revenue (5 yr. Avg.)</b>	\$1,294,224
<b>Ventilation</b>	Natural	<b>Total Investment</b>	\$3,161,679
<b>Manure Handling System</b>	Holding area capture and spread	<b>Return on Assets (Yr. 5)</b>	11.2%

### Picture Examples



Irrigated Paddocks



Swing Parlor



Parlor with Center Pivot System



Crossbred Cattle



<b><u>Input Summary</u></b>					
<b>Scenario:</b>	600 Grazing Dairy				
<b>Production</b>	<b>Your farm</b>		<b>Cow Flow</b>	<b>Year 1</b>	<b>Year 2</b>
Herd size	600	head	Beginning herd	600	600
Calving interval	14.0	months	Cows entering the herd:		
Average days dry for the herd	75	days	Purchases	174	156
Percent cows in milk	82%	percent	Farm-raised replacements	0	0
Annual cull rate	25%	percent	Cows leaving the herd		
Annual death loss	4%	percent	Culls	150	132
Milk per cow per day (year 1)	38.0	lbs.	Sold	0	0
365 day RHA (year 1)	11,337	RHA	Dead	24	24
			Ending herd size	600	600
<b>Expenses</b>	<b>Your farm</b>		<b>Income</b>	<b>Market value</b>	<b>Cull value</b>
Daily feed cost (milking group)	\$1.31	cow/day	Milking and dry cows	\$1,500	\$500
Daily feed cost(dry cow group)	\$0.90	cow/day	12-24 months		\$600
Youngstock diets			6-12 months		\$500
0-2 months	\$0.00	cow/day	2-6 months		\$400
2-6 months	\$0.00	cow/day		<b>Your farm</b>	
6-12 months	\$0.00	cow/day	Milk price	\$15.19	\$/cwt
12-24 months	\$0.00	cow/day	Yearly coop dividend	\$0.00	\$/cwt
Labor costs (year 1)			Bull calf selling price	\$125	\$/head
Hourly labor	\$124,800	dollars	Heifer calf selling price	\$375	\$/head
Salaried labor	\$38,000	dollars	Crop grain sales	\$0	dollars
Annual benefits	\$12,454	dollars	Government payments	\$0	dollars
Total labor	\$175,254	dollars	Other farm income	\$0	dollars
Marketing costs			<b>Balance Sheet</b>	<b>Beginning balance for:</b>	
Federal assessment	\$0.00	\$ per cwt.		<b>January 1</b>	
Advertising	\$0.15	\$ per cwt.	<b>Current assets:</b>		
Coop Fee	\$0.10	\$ per cwt.	Cash	\$30,000	dollars
Hauling	\$0.65	\$ per cwt.	Commodities for sale and feed	\$30,000	dollars
Annual per cow costs			Feeder livestock and cull cows	\$0	dollars
DHIA testing	\$5.40	\$ per cow	Supplies and prepaid expenses	\$30,000	dollars
Semen/Breeding	\$13.20	\$ per cow	Investment in growing crops	\$0	dollars
Vet/Medicine	\$46.80	\$ per cow	Accounts receivable and other	\$0	dollars
Parlor supplies	\$44.80	\$ per cow	Other current assets	\$0	dollars
Utilities	\$51.60	\$ per cow	<b>Non-current assets:</b>		
Annual cow expenses			Farm and equipment:		
Rent	\$2,160	dollars	Land	\$1,050,000	dollars
Real Estate and P.P. Taxes	\$3,960	dollars	Non-farm real estate	\$0	dollars
Repairs/Truck/Fuel	\$46,800	dollars	Buildings	\$765,779	dollars
Insurance	\$12,720	dollars	Equipment	\$344,300	dollars
Other expenses	\$20,280	dollars	Autos & trucks	\$20,000	dollars
Annual forage expenses			Other assets		dollars
Rent	\$7,320	dollars	Investment in coops	\$0	dollars
Fertilizer	\$34,440	dollars	Contract receivables	\$0	dollars
Seed/Spray	\$16,320	dollars	Other	\$0	dollars
Custom Hire	\$20,280	dollars			
Fuel	\$9,720	dollars	<b>Current liabilities:</b>	<b>Beginning balance for:</b>	
Real Estate and P.P. Taxes	\$3,480	dollars	Accounts payable, feed dealers	<b>January 1</b>	
Fence/Water	\$11,760	dollars	Accounts payable, trade	\$0	dollars
Other expenses	\$10,348	dollars	Accrued interest	\$0	dollars
			Payroll taxes & wages	\$0	dollars
			Operating note	\$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  
600 Grazing Dairy**

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

	<b>Herd</b>	<b>Per Cow</b>	<b>Per CWT</b>	<b>Percent</b>
<b>INCOME FROM OPERATIONS:</b>				
Milk sales	\$1,160,412	\$1,934	\$15.19	89.7%
Sales of youngstock & calves	\$133,812	\$223	\$1.75	10.3%
Other farm income	\$0	\$0	\$0.00	0.0%
Patronage dividend	\$0	\$0	\$0.00	0.0%
Total Gross Receipts	\$1,294,224	\$2,157	\$16.94	100.0%
<b>OPERATING EXPENSES:</b>				
Feed:				
Feedstuffs	\$270,095	\$450	\$3.54	25.1%
Less feed for heifers	\$0	\$0	\$0.00	0.0%
Total feed	\$270,095	\$450	\$3.54	25.1%
<b>Herd replacement costs:</b>				
Depreciation--dairy cows	\$103,565	\$173	\$1.36	9.6%
Loss on sale of cows	\$41,357	\$69	\$0.54	3.8%
Total herd replacement costs	\$144,922	\$242	\$1.90	13.5%
<b>Other operating expenses:</b>				
Cow expenses				
Hired labor (including benefits)	\$184,239	\$307	\$2.41	17.1%
Rent	\$2,160	\$4	\$0.03	0.2%
DHIA testing	\$3,240	\$5	\$0.04	0.3%
Semen/breeding	\$7,920	\$13	\$0.10	0.7%
Real estate/P.P. taxes	\$4,163	\$7	\$0.05	0.4%
Milk marketing 1/	\$68,754	\$115	\$0.90	6.4%
Repairs/truck/fuel	\$46,800	\$78	\$0.61	4.4%
Vet/medicine	\$28,080	\$47	\$0.37	2.6%
Parlor supplies	\$28,258	\$47	\$0.37	2.6%
Utilities	\$32,547	\$54	\$0.43	3.0%
Insurance	\$13,372	\$22	\$0.18	1.2%
Other expenses	\$20,280	\$34	\$0.27	1.9%
Forage Expenses				
Rent	\$7,320	\$12	\$0.10	0.7%
Fertilizer	\$36,206	\$60	\$0.47	3.4%
Seed/spray	\$17,157	\$29	\$0.22	1.6%
Custom hire	\$21,320	\$36	\$0.28	2.0%
Fuel	\$9,720	\$16	\$0.13	0.9%
Real estate/P.P. taxes	\$3,658	\$6	\$0.05	0.3%
Fence/water	\$11,760	\$20	\$0.15	1.1%
Other expenses	\$10,348	\$17	\$0.14	1.0%
Depreciation	\$103,095	\$172	\$1.35	9.6%
Less other expenses for raising heifers	\$0	\$0	\$0.00	0.00%
Total other operating expenses	\$660,396	\$1,101	\$8.64	61.4%
<b>TOTAL OPERATING EXPENSES</b>	<b>\$1,075,413</b>	<b>\$1,792</b>	<b>\$14.08</b>	<b>100.0%</b>
<b>NET INCOME FROM OPERATIONS</b>	<b>\$218,811</b>	<b>\$365</b>	<b>\$2.86</b>	
1/ Includes milk hauling, state and federal promotion, coop/marketing fees, and the cost of marketing beef.				