LIVESTOCK

Good for the Economy
and
Good for the Environment

MINNESOTA NEEDS MORE LIVESTOCK

A REPORT BY STATE SENATOR STEVE DILLE

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Summary

This booklet provides information from numerous sources which are listed in the reference section to support the following conclusions:

1. It is Minnesota State Policy enacted into law in 2004, to promote environmental protection including soil erosion control and water quality improvement by increasing livestock production.

2. The Minnesota Senate passed a resolution (SF 1218) on May 21, 2005 on a 57 to 1 vote asking for the residents of Minnesota to end the feedlot wars and begin a new era for Minnesota's livestock producers and rural residents that is characterized by peace, love, harmony, and acceptance of Minnesota's diverse systems of livestock production. It calls for livestock farmers to be good neighbors and to carefully follow all the rules. It also calls for rural residents to be good neighbors and accept and support livestock production in their area.

3. Farms that produce livestock stimulate the economy directly through on-farm employment and the processing of livestock and their products, but also indirectly through thousands of agribusiness jobs that support this industry. The livestock business is a very large and important component of Minnesota's economy providing at least 100,000 jobs and $14 billion in economic activity.

4. Each dairy cow produces about $14,000 of economic activity. The dairy industry ranks 4th in employment among Minnesota's manufacturing industries.

5. American's spend only 9.2% of their income on food—the lowest in the world.

6. To make a living producing Minnesota's major commodities and make a net profit of $50,000 per year will require at least $300,000 of annual gross farm revenue. For most farmers this means the farm business must grow. Currently only 12% of Minnesota's 79,800 farms have gross cash annual sales of over $250,000. Let's promote farm business growth, and reinvestment, and especially livestock production so there can be more prosperity on the farm.

7. Livestock producers have a tremendous opportunity to contribute a multitude of net environmental benefits to Minnesota's water and soil resources, when they use properly designed facilities, follow existing federal and state regulations, and implement Best Management Practices. Livestock production is good for the environment because there will be less soil, water, and phosphorus runoff, less nitrogen leaching, better soil fertility, better control of disease, weeds

and insects, more diversity in the cropping system, less urban sprawl, better water quality, more open space, agricultural land preserved, and wildlife habitat protected.

8. Tremendous improvements have been made in odor control. Thanks to research, government regulation, and technology advances, modern day livestock farms are good neighbors. Look at the facts and don't be driven by emotion.

9. Parts of the industrialized world are compared with Minnesota. The locations selected have five to twenty-four times more people per square mile than Minnesota. In all cases they have many times more livestock than Minnesota. This shows high livestock and high human populations can peacefully coexist. Minnesota should try to be more accepting of livestock production, even in areas of higher population density.

10. Minnesotans should try to set this "Not in my backyard!" argument aside. If everyone succeeded in stopping various projects it would shut our country down economically, socially and environmentally. Let's not be selfish, let's do what's good for society as a whole.

11. Most of the growth is from family farmers growing their livestock enterprise so they can continue making a living on the farm, or so they can bring the next generation into the farm business.

12. We should all strive to be farmer friendly neighbors and neighbor friendly farmers.

13. Livestock is good for the economy and good for the environment. The time has come for Minnesotans to step out of the dark shadows of fighting against livestock farmers that are growing their business because of a false premise that livestock is bad for the economy and bad for the environment. Instead, Minnesotans should step into the bright sunshine of enthusiastically supporting livestock farmers that are growing their business because livestock is good for the economy and good for the environment. Minnesota needs more livestock.

State of Minnesota Livestock Production Policy

Minnesota Statutes 2005, Table of Chapters

Table of contents for Chapter 17

17.844 Livestock production policy.

(a) The policy of the state is to promote livestock production on family farms under a broad range of management systems that are environmentally sound and meet all legal requirements of all jurisdictions, including federal, state, county, town, city, and watershed district requirements.

(b) In order to promote livestock production on family farms, state agencies when appropriate shall, to the extent allowed by law:

(1) promote the establishment of livestock enterprises on family farms;

(2) promote environmental protection and water quality improvement through increased livestock production that results in controlling runoff through increased acreage of hay, pasture, and small grains; and

(3) promote more farms to use agronomically applied manure to increase the water holding capacity of the soil and control erosion.

HIST: 2004 c 254 s 2

Please note: It is Minnesota State Policy to promote environmental protection including soil erosion control and water quality improvement by increasing livestock production.

Senate File 1218 Senate Resolution on Livestock Production

Chief Author: Senator Steve Dille (R-Dassel), Lead Republican Senate Agriculture Committee

Co-Authors: Senator Jim Vickerman (DFL-Tracy), Committee Chairman Senate Agriculture Committee
Senator Dick Day (R-Owatonna), Senate Minority Leader
Senator Dean Johnson (DFL-Willmar), Senate Majority Leader
Senator Becky Lourey (DFL-Kerrick), member, Senate Agriculture Committee

Passed the Minnesota Senate on May 21, 2005 on a vote of 57-1.

S.F. No. 1218, 2nd Engrossment - 84th Legislative Session (2005-2006) Posted on May 23, 2005

A memorial resolution
asking the residents of Minnesota for tolerance of different views on animal agriculture production practices; making 2005 the year the Minnesota feedlot war ended, and the mark of the beginning of a new era for Minnesota livestock farmers characterized by peace, love, harmony, and acceptance of diversity.

WHEREAS, Minnesota has a diverse livestock production system; and

WHEREAS, Minnesota livestock farmers and related agricultural processing benefits the state's economy by employing over 200,000 people and generating over $28,000,000,000 in economic value to the state; and

WHEREAS, the "Minnesota feedlot wars" started around 1985 and have continued for approximately 20 years; and

WHEREAS, some have expended time, energy, and resources during the last 20 years that has been channeled into criticizing and tearing down someone else's preferred method of livestock production; and

WHEREAS, Minnesota has many opportunities for residents to learn about the economic and environmental benefits of livestock produced on a broad range of diverse systems, ranging from pasture to confinement; and

WHEREAS, high livestock and human populations peacefully coexist in close proximity to each other in much of the world, such as the United Kingdom, Denmark, the Netherlands, and Lancaster County, Pennsylvania; NOW, THEREFORE,

BE IT RESOLVED, that 2005 be known as the year that the Minnesota feedlot wars ended and that 2005 marks the beginning of a new era that is characterized by peace, harmony, love, and acceptance of diversity with regard to livestock farmers in Minnesota.

BE IT FURTHER RESOLVED, all Minnesotans should adopt a respectful, encouraging, and appreciative attitude toward Minnesota livestock farmers.

BE IT FURTHER RESOLVED, livestock farmers should renew and intensify their efforts to be good neighbors and good stewards of our environment by carefully following all federal, state, and local regulations.

BE IT FURTHER RESOLVED, rural residents should renew and intensify their efforts to be good neighbors, and accept, encourage, and support the livestock farmers in their area.

BE IT FURTHER RESOLVED, that time, energy, and resources could be more productively channeled into promoting a person's preferred method of livestock production rather than directed toward criticizing another person's preferred method of livestock production.

LIVESTOCK IS GOOD FOR MINNESOTA'S ECONOMY

1. In 2003 Minnesota farms sold $4 billion of livestock and livestock products. The direct and indirect effect on the economy is estimated by various sources to be between $10 and $28 billion, providing between 100,000 and 200,000 jobs.

   An analysis done by Dr. Bill Lazarus, Agricultural Economist, University of Minnesota, using data from the year 2000 estimated the direct and indirect employment of the livestock industry in Minnesota to be 113,000 jobs. About 30% of Minnesota's livestock is exported and processed out of state. This probably adds another 16,000 jobs. This does not count the jobs created in distribution and marketing.

2. Minnesota livestock consumes 25% of Minnesota corn and soybean crops.

3. Minnesota ranks 1st in the nation in turkey production, 3rd in hogs and 5th in dairy cows, 6th in total red meat production, and 8th in total livestock production (2005 MN Agricultural Statistics.)

4. Ethanol production is very good for Minnesota's economy. Livestock production is synergistic with ethanol production because of high protein animal feed bi-products produced by ethanol plants. Minnesota currently has 14 ethanol plants providing 2,600 jobs and adding $600 million to the economy.

Dairy Cows are Rural Economic Development Engines

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More dairy cows on the Minnesota landscape will help revitalize Minnesota's rural communities. A recent University of Wisconsin study shows each cow generates $13,737 of economic activity. This estimate is supported by a Minnesota Study in 1993 estimating the impact of one cow to be $11,671. This money ripples through the community in the form of jobs, goods and services created by a cow. Each cow paid $604 in state and local taxes in the Minnesota study and $512 in the Wisconsin study. These estimates are in close agreement in that 10 years separated the time of the two studies.

Minnesota has lost more than 73,000 cows from its landscape since 1996. This has impacted the state's economic industrial output with a loss of more than a billion dollars. The net reduction in state and local tax revenue from the Minnesota dairy industry over the last 5 year period has been more than $37,000,000. A modest 1% growth would have added more than $15,000,000 in state and local tax revenue.

Many people in the community benefit from this ripple impact. These studies estimated the economic impact from the farm to the table, production, processing the farm production sector, the processing sector, and the indirect impact of the goods and services created by employees of these two sectors. They include the farm family from milk and animal sales, with the providers of input goods and services purchased by the farm, and the dairy-processing sector which are major employers and add large value to milk products. These two dairy sectors create added business activity in the community. Some of the businesses benefiting from the cow include retail and wholesale trade, restaurant/bar, personal services, medical services, banking, insurance, electrical services, housing and real estate.

The total number of jobs supported by the Minnesota dairy industry surpasses the combined employment of 3-M, Target, and Northwest Airlines. Cows generate jobs. A 1999 Minnesota study showed the Minnesota dairy industry supported 53,595 jobs. The industry employed 44,529 people in dairy production, processing, marketing and supply sectors. This created another 9,347 jobs through local spending. It ranks fourth for employment in Minnesota's manufacturing industries. (Minnesota Trade and Economic Development, 1999) Every nine cows supported one job in the recent Wisconsin study.

The dairy industry adds $600 million in value to Minnesota's crops each year. Minnesota cows convert about 60 million bushels of corn, 5.5 million tons of corn silage, 2.4 million tons of hay, and 400,000 tons of high-protein feed to the higher value product of milk. In times of normal prices, the added value benefit of each $1 of feed converts to $3.69 in value of milk. The value of each $2.60 bushels of corn contributes $9.57 to the economic base of the community when marketed as milk.

Every 1,000 dairy cows within a community contributes approximately $2.7 million in farm income, employs 12 people, and uses 1,224 acres of corn and 621 acres of hay. Raising replacements in the community would increase this contribution by $1 million. The purchased services for 1,000 animals would add $65,550 in veterinary and breeding, $167,232 in interest, $63,835 in supplies, and $58,650 in utilities, $57,600 and insurance, and $342,985 in wages.

Cows encourage diversity in cropping systems through hay or cover forage crops and sustainable crop rotations. Among domestic animals, cows are the most efficient converters of these crops to high quality food products. Hay crops provide protection to easily eroded soils that are found in many areas of the state. Good manure and nutrient management programs use manure as a crop nutrient resource to minimize pollution risks and sustain soil fertility and structure, thus reducing dependence on commercial fertilizers. The dairy industry is based on use of renewable resources and therefore is one of the state's most sustainable economic engines.

1/17/03

The American Food System

American's spend only 8.7% of their income in the marketplace for food. This is the lowest percentage in the world as calculated by the United Nations and the World Bank.

By comparison, spending for food in other major countries as a percentage of income are as follows: United Kingdom – 12%, Sweden – 14%, France – 16%, Germany – 18%, Norway – 20%, Ireland – 21%, Mexico – 34%, Russia – 38%, India – 51%, Philippines – 55%, and Tanzania – 71%.

We also spend a little bit more for our food through the taxes we pay to fund the federal farm program. This amounts to less than an additional ½% of our income that is directly paid to farmers. So the cost on average is the 8.7% we spend in the marketplace plus the ½% we pay through our taxes for a total of 9.2%--still the lowest in the world.

In 2003 the federal Farm Program paid Minnesota Farmers an average of $32.60/acre. The amount varies from year to year, based on commodity prices. When prices are high, the payment is less. When prices are low the payment is higher. For this, taxpayers not only made another small payment for their food, they also paid the farmer for some important environmental protection that benefits everyone. For example, farmers enrolled in the Federal Farm Program must preserve wetlands and control soil erosion.

If they have highly erodible land, they may be required to put in grassed waterways, buffer strips, terraces, use contour strips, plant more hay or pasture, use a no till system or other management practices to adequately control soil erosion. In some cases land is taken out of production and enrolled in the Conservation Reserve Program.

In most of the industrialized world, the taxpayers also make payments to farmers. For example, European Union taxpayers pay their farmers on average $320/acre—ten times the amount paid to Minnesota farmers. In Japan it's an unbelievable $4000/acre.

The American food production, processing and distribution system is among the best in the world. It provides an abundance of food that's high quality, safe, and offered to consumers at affordable prices.

Farm size necessary to make $50,000 net profit

Information in this section is from the farm management records for West Central and Central Minnesota. These records are collected, analyzed, and provided by the Farm Business Management Program through the Minnesota State College and University system located at Ridgewater College, Willmar. Each year about 500 Minnesota family farms are enrolled in this program.

	1999 503 Farms	**2000 505 Farms**	**2001 505 Farms**	**2002 451 Farms**	**2003 489 Farms**	**2004 500 Farms**
Average gross income	$306,000	$323,000	$344,000	$327,000	$380,000	$409,000
Average net income	$62,000	$56,000	$38,000	$50,000	$73,000	$76,000
% of gross that's net	20%	14%	11%	15%	19%	19%

To net $50,000, you would need at least $300,000 of gross farm revenue.

In 2004, 139 out of 500 farms kept detailed records on household expenses. On average they spent $41,000 for total family living expenses, including $7,300 for health care. They also have to pay income and social security taxes out of net profits. The U.S. Census Bureau reports the 2004 MN median household income was $56,000.

$50,000 is barely enough to meet all expenses if you do not have off-farm income.

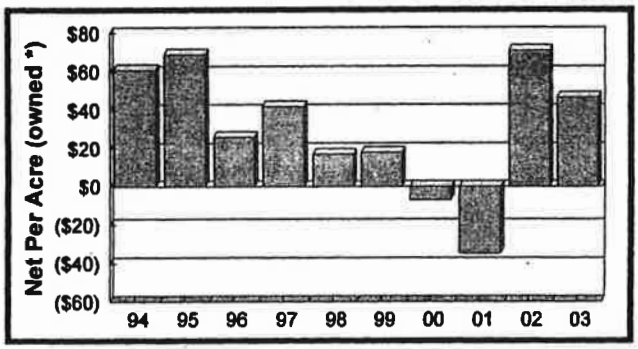
In order for most farmers to make a decent living, expansion and growth are necessary, especially if a son or daughter joins the business.

The following seven pages show the average production cost, gross revenue, and net profit by enterprise, including the average net profit for the past 10 years for the 500 farmers in this farm management program. Each page provides information on a major crop. Look at the bottom of each page for the summary.

Corn - 2003 MnSCU West Central FBM 2003	OWNED Average	Low	High	RENTED Average	Low	High
	281	50	57	439	87	80
Acres	116.3	75.4	132.7	201.1	97.8	260.8
Yield per Acre	143.0	96.3	168.7	145.1	102.1	164.8
Operators Share of Yield %	100	100	100	100	100	100
Value per Unit	$2.21	$2.10	$2.28	$2.23	$2.11	$2.27
Crop Product Return Per Acre	$316.12	$202.17	$384.64	$323.51	$215.37	$374.07
Miscellaneous Income per Acre	$9.38	$8.01	$10.24	$5.47	$16.10	$2.01
Gross Return per Acre	$325.50	$210.18	$394.88	$328.98	$231.47	$376.08
Direct Expense Per Acre						
Seed	40.48	36.65	43.11	41.47	37.95	41.55
Fertilizer	48.87	39.86	47.34	49.83	44.87	47.32
Chemicals	24.47	26.50	21.36	24.06	28.09	21.02
Crop Insurance	8.96	6.20	8.88	10.10	8.92	7.85
Drying Fuel	5.90	6.69	7.53	5.84	7.19	7.06
Fuel and Oil	11.96	14.23	12.88	11.73	12.91	12.71
Repairs	23.21	29.93	23.52	19.69	27.77	17.83
Custom Hire	4.90	6.76	4.38	3.30	2.96	2.04
Land Rent	0.00	0.00	0.00	76.20	65.29	74.46
Marketing	0.65	2.08	0.08	0.32	1.55	0.01
Operating Interest	5.25	5.59	5.06	6.04	5.46	5.00
Miscellaneous	1.41	2.07	0.79	1.12	1.39	0.59
Total Direct Expenses	$176.06	$176.56	$174.93	$249.70	$244.35	$237.44
Return over Direct Expense	$149.44	$33.62	$219.95	$79.28	($12.88)	$138.64
Overhead Costs per Acre						
Custom Hire	1.95	6.95	1.73	1.47	4.43	1.20
Hired Labor	7.74	5.50	11.82	7.04	6.20	6.72
Machinery & Building Leases	3.76	2.54	3.87	5.67	2.14	4.24
Real Estate Taxes	7.57	6.58	8.05	0.00	0.00	0.00
Farm Insurance	4.84	4.88	5.49	4.10	3.43	4.95
Utilities	3.41	3.05	3.79	2.83	2.81	2.86
Dues & Professional Fees	1.14	0.77	1.38	1.20	1.64	1.39
Interest: Interm/Lg Term Debt	40.52	35.33	47.51	5.20	6.92	3.69
Mach & Bldg Depreciation	24.75	33.53	25.05	18.54	23.24	21.32
Miscellaneous	6.92	4.64	11.36	4.00	3.87	4.32
Total Overhead Expenses	$102.60	$103.77	$120.05	$50.05	$54.68	$50.69
Total Expenses	$278.66	$280.33	$294.98	$299.75	$299.03	$288.13
Net Return per Acre	**$46.84**	**($70.15)**	**$99.90**	**$29.23**	**($67.56)**	**$87.95**
Direct Expense per unit	$1.23	$1.83	$1.04	$1.72	$2.39	$1.44
Total Expense per unit	$1.95	$2.91	$1.75	$2.07	$2.93	$1.75
Net Return per Unit	$0.33	($0.73)	$0.59	$0.20	($0.66)	$0.53
Break Even Yield per Acre	126.09	133.49	129.38	134.42	141.72	126.93
Estimated Labor Hours per Acre	3.08	4.57	2.98	2.37	3.59	2.13
Labor & Mgmt Charge per Acre	$25.23	$29.12	$23.57	$21.97	$27.63	$19.81
Net Return over Labor & Mgmt	$21.61	($99.27)	$76.33	$7.26	($95.19)	$68.14
Government Payments	$22.80	$19.62	$26.82	$23.37	$21.32	$24.50
Net Return with Government Payments	$44.41	($79.65)	$103.15	$30.63	($73.87)	$92.64

Net Return Per Acre (owned)

Year	Gr. Return	T. Costs	Net Return
94 *	$288	$227	$61
95	$301	$232	$69
96	$271	$245	$26
97	$299	$257	$42
98	$276	$259	$17
99	$278	$260	$18
00	$262	$269	($7)
01	$243	$278	($35)
02	$344	$273	$71
03	$325	$279	$47

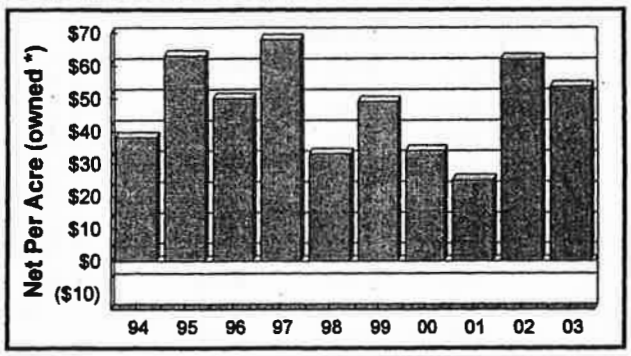


10 year average net return/acre of corn - $31 + $25 government payment = $56/acre
Acres required to net $50,000 = 900 acres

Soybean - 2003 MnSCU West Central FBM 2003	OWNED			RENTED		
	Average	Low	High	Average	Low	High
	241	45	45	455	101	101
Acres	116.0	63.7	133.2	204.1	138.1	201.4
Yield per Acre	32.3	23.2	39.4	31.4	25.3	36.4
Operators Share of Yield %	100	100	100	100	100	100
Value per Unit	$6.66	$6.26	$7.05	$6.59	$6.12	$7.14
Crop Product Return Per Acre	$214.92	$145.29	$277.77	$206.86	$154.77	$259.68
Miscellaneous Income per Acre	$20.98	$8.94	$18.35	$20.85	$13.23	$27.48
Gross Return per Acre	$235.90	$154.23	$296.12	$227.71	$168.00	$287.16
Direct Expense Per Acre						
Seed	25.08	26.99	23.56	24.13	24.84	23.25
Fertilizer	6.51	8.92	3.97	5.21	7.96	4.53
Chemicals	20.34	20.99	20.99	18.90	18.62	19.40
Crop Insurance	7.81	5.43	7.74	8.00	5.75	7.72
Fuel and Oil	9.47	9.76	9.22	9.55	9.94	9.85
Repairs	18.64	21.91	21.02	16.50	22.94	15.88
Custom Hire	5.10	7.99	5.23	3.30	4.48	4.36
Hired Labor	0.00	0.00	0.00	0.27	0.05	0.61
Land Rent	0.00	0.00	0.00	73.54	70.49	73.63
Machinery and Bldg Leases	0.29	0.57	0.00	0.40	2.21	0.04
Marketing	0.38	1.53	0.03	0.00	0.00	0.00
Operating Interest	4.49	3.05	3.22	4.90	4.98	3.59
Miscellaneous	0.80	0.48	0.52	0.65	1.19	0.27
Total Direct Expenses	$98.91	$107.62	$95.50	$165.35	$173.45	$163.13
Return over Direct Expense	$136.99	$46.61	$200.62	$62.36	($5.45)	$124.03
Overhead Costs per Acre						
Custom Hire	1.02	1.32	1.17	1.16	2.71	0.66
Hired Labor	5.62	5.02	5.27	5.41	6.06	7.28
Machinery & Building Leases	2.66	0.74	1.82	4.47	2.02	5.39
Real Estate Taxes	7.69	6.40	9.29	0.00	0.00	0.00
Farm Insurance	3.83	2.98	4.52	3.52	3.22	4.37
Utilities	2.79	2.60	3.07	2.41	2.77	2.86
Dues & Professional Fees	1.10	0.49	1.24	1.09	1.09	1.20
Interest: Interm/Lg Term Debt	34.16	35.21	34.16	4.49	5.40	3.50
Mach & Bldg Depreciation	19.81	23.18	21.95	16.00	17.69	18.72
Miscellaneous	4.70	2.74	9.09	3.72	3.60	5.25
Total Overhead Expenses	$83.38	$80.68	$91.58	$42.27	$44.56	$49.23
Total Expenses	$182.29	$188.30	$187.08	$207.62	$218.01	$212.36
Net Return per Acre	**$53.61**	**($34.07)**	**$109.04**	**$20.09**	**($50.01)**	**$74.80**
Direct Expense per unit	$3.07	$4.64	$2.42	$5.27	$6.86	$4.49
Total Expense per unit	$5.65	$8.11	$4.75	$6.61	$8.62	$5.84
Net Return per Unit	$1.66	($1.47)	$2.77	$0.64	($1.98)	$2.06
Break Even Yield per Acre	27.37	30.08	26.54	31.51	35.62	29.74
Estimated Labor Hours per Acre	2.42	3.08	2.18	2.04	2.50	1.83
Labor & Mgmt Charge per Acre	$21.07	$24.22	$21.80	$18.41	$21.25	$16.95
Net Return over Labor & Mgmt	$32.54	($58.29)	$87.24	$1.68	($71.26)	$57.85
Government Payments per Acre	$22.73	$20.25	$24.43	$22.38	$24.15	$21.66
Net Return with Govt Payments	$55.27	($38.04)	$111.67	$24.06	($47.11)	$79.51

Net Return Per Acre (owned)

Year	Gr. Return	T. Costs	Net Return
94 *	$200	$162	$38
95	$220	$157	$63
96	$227	$177	$50
97	$255	$187	$68
98	$221	$188	$33
99	$222	$173	$49
00	$212	$178	$34
01	$208	$183	$25
02	$230	$168	$62
03	$236	$182	$54

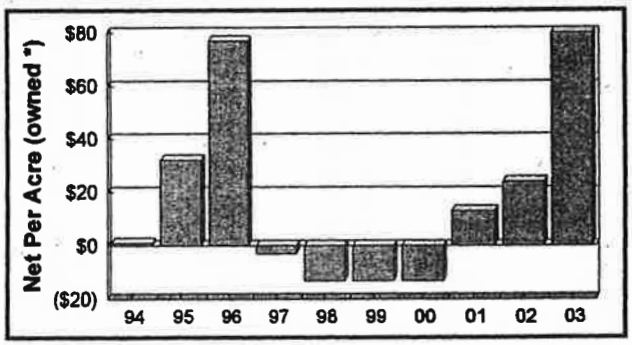


10 year average net return/acre of soybeans - $48 + $22 government payment = $70/acre
Acres required to net $50,000 = 700 acres

Wheat - 2003 MnSCU West Central FBM 2003	OWNED Average	OWNED Low	OWNED High	RENTED Average	RENTED Low	RENTED High
	52	14	14	116	26	26
Acres	63.9	37.2	48.2	94.9	56.9	90.3
Yield per Acre	58.9	47.2	68.0	59.9	45.6	67.5
Operators Share of Yield %	100	100	100	100	100	100
Value per Unit	$3.64	$3.51	$3.63	$3.64	$3.55	$3.70
Crop Product Return Per Acre	$214.43	$165.74	$246.88	$218.18	$162.02	$249.60
Miscellaneous Income per Acre	$13.92	$4.74	$17.14	$7.88	$11.84	$6.18
Gross Return per Acre	$228.35	$170.48	$264.02	$226.06	$173.86	$255.78
Direct Expense Per Acre						
Seed	13.27	15.39	12.35	12.82	12.79	11.78
Fertilizer	30.68	25.90	30.21	30.79	28.22	31.50
Chemicals	7.45	11.36	3.73	8.42	10.91	7.35
Crop Insurance	6.11	3.92	5.07	5.36	5.48	4.57
Drying Fuel	0.07	0.69	0.00	0.00	0.00	0.00
Fuel and Oil	7.14	11.09	5.30	6.61	5.77	7.31
Repairs	12.37	15.51	9.50	11.13	9.80	10.66
Custom Hire	3.30	14.55	2.33	3.60	7.88	1.71
Machinery and Bldg Leases	0.08	0.83	0.00	0.14	0.69	0.00
Land Rent	0.00	0.00	0.00	62.61	66.42	61.35
Marketing	1.34	0.06	0.00	0.46	0.53	0.00
Operating Interest	3.76	4.44	5.47	3.48	3.56	2.19
Miscellaneous	1.90	0.48	8.55	0.71	0.47	0.20
Total Direct Expenses	$87.47	$104.22	$82.51	$146.13	$152.52	$138.62
Return over Direct Expense	$140.88	$66.26	$181.51	$79.93	$21.34	$117.16
Overhead Costs per Acre						
Custom Hire	1.15	0.75	1.92	0.86	0.19	1.09
Hired Labor	3.27	1.87	2.44	2.53	1.32	3.71
Machinery & Building Leases	1.80	0.71	0.30	2.66	2.35	1.62
Real Estate Taxes	7.42	5.90	7.77	0.00	0.00	0.00
Farm Insurance	2.95	3.56	3.17	2.44	2.04	2.66
Utilities	1.80	2.21	1.55	1.49	1.41	1.43
Dues & Professional Fees	0.69	0.93	0.52	0.85	0.86	0.48
Interest: Interm/Lg Term Debt	21.84	20.59	19.80	3.01	2.09	4.00
Mach & Bldg Depreciation	12.21	14.39	13.40	10.29	8.97	12.75
Miscellaneous	3.97	3.92	3.78	2.98	2.34	3.56
Total Overhead Expenses	$57.10	$54.83	$54.65	$27.11	$21.57	$31.30
Total Expenses	$144.57	$159.05	$137.16	$173.24	$174.09	$169.92
Net Return per Acre	**$83.78**	**$11.43**	**$126.86**	**$52.82**	**($0.23)**	**$85.86**
Direct Expense per unit	$1.48	$2.21	$1.21	$2.44	$3.34	$2.05
Total Expense per unit	$2.45	$3.37	$2.02	$2.89	$3.81	$2.52
Net Return per Unit	$1.42	$0.24	$1.87	$0.88	($0.00)	$1.27
Break Even Yield per Acre	39.72	45.31	37.79	47.59	49.04	45.92
Estimated Labor Hours per Acre	1.95	2.41	2.35	1.57	1.93	1.80
Labor & Mgmt Charge per Acre	$14.98	$20.28	$15.11	$13.53	$16.04	$15.07
Net Return over Labor & Mgmt	$68.80	($8.85)	$111.75	$39.29	($16.27)	$70.79
Government Payments per Acre	$20.74	$23.07	$19.78	$19.18	$15.88	$21.21
Net Return with Govt Payments	$89.54	$14.22	$131.53	$58.47	($0.39)	$92.00

Net Return Per Acre (owned)

Year	Gr. Return	T. Costs	Net Return
94 *	$137	$136	$1
95	$171	$139	$32
96	$229	$152	$77
97	$149	$152	($3)
98	$149	$162	($13)
99	$137	$150	($13)
00	$112	$125	($13)
01	$176	$163	$13
02	$164	$140	$24
03	$228	$145	$84

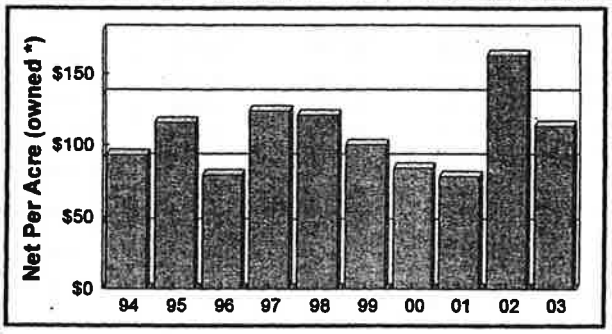


10 year average net return/acre of wheat - $19 + $22 government payment = $41/acre
Acres required to net $50,000 = 1200 acres

Alfalfa Hay - 2003 MnSCU West Central FBM 2003	OWNED Average	OWNED Low	OWNED High	RENTED Average	RENTED Low	RENTED High
	104	21	21	110	24	24
Acres	48.1	39.1	66.3	41.6	36.2	49.8
Yield per Acre	3.4	1.9	4.8	3.4	1.7	5.0
Operators Share of Yield %	100	100	100	100	100	100
Value per Unit	$90.91	$75.67	$100.53	$87.84	$79.54	$95.55
Crop Product Return Per Acre	$312.73	$139.99	$480.53	$295.14	$134.42	$475.84
Miscellaneous Income per Acre	$1.28	$2.29	$1.78	$8.89	$0.00	$2.47
Gross Return per Acre	$314.01	$142.28	$482.31	$304.03	$134.42	$478.31
Direct Expense Per Acre						
Fertilizer	15.84	15.32	21.08	18.68	11.85	25.70
Seed	0.00	0.00	0.00	0.00	0.00	0.00
Chemicals	4.22	4.97	6.79	6.28	5.15	9.51
Crop Insurance	1.05	0.91	1.19	1.90	1.61	2.82
Drying Fuel	0.00	0.00	0.00	0.00	0.00	0.00
Fuel and Oil	15.62	15.99	16.16	14.92	15.09	16.31
Repairs	27.54	31.76	21.14	28.94	33.25	26.71
Custom Hire	11.55	10.61	7.34	9.60	7.13	6.86
Special Hired Labor	0.00	0.00	0.00	0.00	0.00	0.00
Machinery and Bldg Leases	0.53	0.00	0.00	1.81	0.47	3.56
Land Rent	0.00	0.00	0.00	67.99	62.48	74.02
Utilities	0.00	0.00	0.00	0.00	0.00	0.00
Marketing	0.00	0.00	0.00	0.29	0.81	0.00
Operating Interest	6.07	14.70	2.78	4.71	6.59	3.89
Miscellaneous	2.33	1.36	2.87	1.75	1.24	2.04
Total Direct Expenses	$84.75	$95.62	$79.35	$156.87	$145.67	$171.42
Return over Direct Expense	$229.26	$46.66	$402.96	$147.16	($11.25)	$306.89
Overhead Costs per Acre						
Custom Hire	4.59	5.41	4.11	5.49	4.33	6.19
Hired Labor	7.55	3.72	13.98	11.98	9.09	13.95
Machinery & Building Leases	3.07	4.38	2.03	4.44	5.21	3.23
Real Estate Taxes	6.00	6.41	5.48	0.00	0.00	0.00
Farm Insurance	4.89	4.36	4.50	3.78	2.79	3.60
Utilities	4.01	3.99	3.19	3.19	4.28	2.25
Dues & Professional Fees	1.47	1.18	1.13	0.95	1.08	1.05
Interest: Interm/Lg Term Debt	37.35	27.87	41.84	6.49	7.67	5.06
Mach & Bldg Depreciation	35.30	33.30	41.34	28.65	31.47	22.11
Miscellaneous	11.50	6.64	26.33	5.79	4.99	3.40
Total Overhead Expenses	$115.73	$97.26	$143.93	$70.76	$70.91	$60.84
Total Expenses	$200.48	$192.88	$223.28	$227.63	$216.58	$232.26
Net Return per Acre	$113.53	($50.60)	$259.03	$76.40	($82.16)	$246.05
Direct Expense per ton	$24.64	$51.69	$16.60	$46.69	$86.20	$34.42
Total Expense per ton	$58.28	$104.26	$46.71	$67.75	$128.15	$46.64
Net Return per ton	$33.00	($27.35)	$54.19	$22.74	($48.61)	$49.41
Break Even Yield per Acre	2.21	2.55	2.22	2.59	2.72	2.43
Estimated Labor Hours per Acre	4.88	5.06	5.12	4.28	4.22	4.08
Labor & Mgmt Charge per Acre	$29.98	$28.72	$25.45	$27.48	$28.89	$18.17
Net Return over Labor & Mgmt	$83.55	($79.32)	$233.58	$48.92	($111.05)	$227.88
Government Payments per Acre	$18.82	$15.29	$16.97	$20.60	$15.59	$19.90
Net Return with Govt Payments	$102.37	($64.03)	$250.55	$69.52	($95.46)	$247.78

Net Return Per Acre (owned)

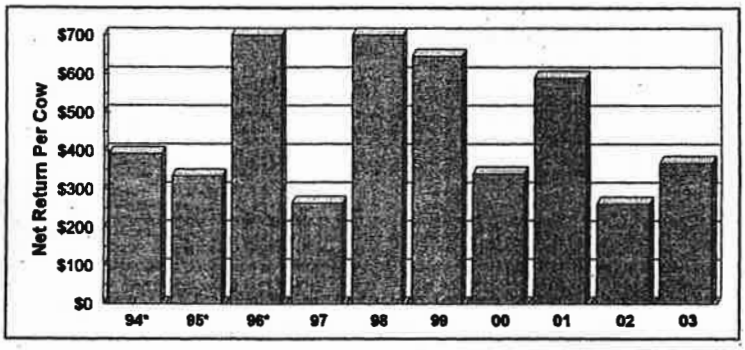
Year	Gr. Return	T. Costs	Net Return
94 *	$268	$175	$93
95	$290	$174	$116
96	$255	$176	$79
97	$316	$192	$124
98	$324	$203	$121
99	$311	$211	$100
00	$285	$201	$84
01	$285	$207	$78
02	$357	$194	$163
03	$314	$200	$114



10 year average net return/acre of alfalfa - $107 + $15 government payment = $122/acre
Acres required to net $50,000 = 400 acres

Dairy Cow Enterprise-03 MN AVG-Per Cow	529 Farms Quantity	Average Per Cow	105 Farms Quantity	Low Per Cow	105 Farms Quantity	High Per Cow
Milk Sold	19921.63	$2,574.89	17336.63	$2,212.29	22755.21	$3,013.08
Milk Used in the Home & Fed	76.34	$8.90	85.03	$11.05	60.29	$7.24
Dairy Calves Sold	0.17	$27.95	0.09	$19.78	0.19	$27.29
Transferred Out	0.72	$89.26	0.62	$71.96	0.79	$102.26
Cull Sales	0.27	$129.37	0.30	$111.96	0.26	$132.22
Butchered	0.01	$3.15	0.01	$3.88	0.01	$2.85
Less Livestock Purchased	-0.06	($64.76)	-0.07	($74.03)	-0.03	($37.34)
Less Livestock Transferred In	-0.33	($374.78)	-0.32	($367.23)	-0.36	($391.52)
Inventory Change	0.02	$39.53	-0.04	($45.15)	0.05	$104.25
Total Production	19997.97	$2,433.51	17421.66	$1,944.51	22815.50	$2,960.33
Other Income		$183.95		$157.80		$196.37
Total Return		**$2,617.46**		**$2,102.31**		**$3,156.70**
Direct Costs						
Corn (bu.)	75	156.87	75	165.63	81	165.60
Corn Silage (lb.)	14003	136.20	13604	131.70	15265	148.44
Hay, Alfalfa (lb.)	4286	192.30	4024	174.00	4369	193.84
Haylage, Alfalfa (lb.)	3123	76.71	4340	112.55	3133	75.13
Complete Ration (lb.)	1034	104.38	832	80.02	1024	90.04
Protein Vit Minerals (lb.)	2877	363.06	2872	392.23	3458	393.36
Other feed stuffs	1331	58.94	1113	57.43	682	44.04
Total Feed		**$1,088.46**		**$1,113.56**		**$1,110.45**
Breeding fees		29.76		19.54		37.50
Veterinary		96.56		98.15		94.20
BST		33.04		26.99		41.80
Livestock supplies		134.65		122.43		126.40
DHIA		14.79		12.34		15.96
Fuel & oil		35.90		38.50		36.19
Repairs		94.09		82.45		103.53
Custom hire		17.64		31.66		16.71
Hired labor		0.00		0.00		0.00
Hauling and trucking		23.14		19.59		25.98
Marketing		41.35		41.44		40.08
Bedding		12.72		10.19		16.24
Operating interest		13.58		21.34		10.44
Total Direct Costs		$1,635.68		$1,638.18		$1,675.48
Return to Direct Costs		$981.78		$464.13		$1,481.22
Overhead Costs						
Custom Hire		15.18		7.03		20.15
Hired labor		201.61		169.41		274.08
Machinery & bldg leases		25.97		31.56		25.89
Farm insurance		30.54		29.73		31.50
Utilities		61.14		60.16		65.25
Interest		112.12		106.81		116.95
Mach & bldg depreciation		121.93		111.51		134.47
Miscellaneous		44.58		37.30		48.74
Total Overhead Costs		$613.07		$553.51		$717.03
Total Costs		$2,248.75		$2,191.69		$2,392.51
Net Return		**$368.71**		**($89.38)**		**$764.19**
Est. Labor Hours per Unit		40.94		41.65		41.39
Labor & Management Charge		$187.56		$184.26		$202.39
Net Return over Lbr. & Mgt.		$181.15		($273.64)		$561.80

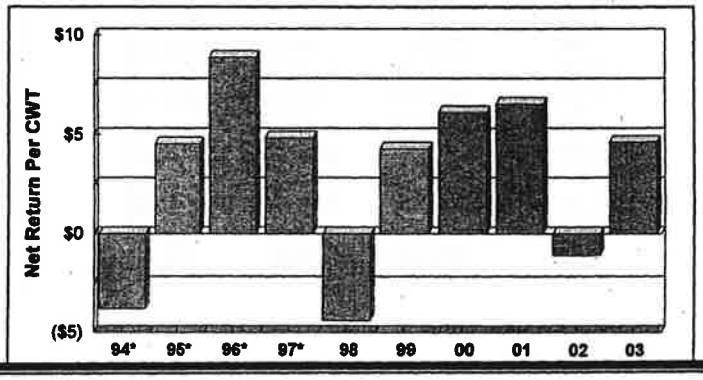
Enterprise History			Per Cow
Year	T. Return	T. Costs	Net Ret.
94*	$2,170	$1,777	$393
95*	$2,055	$1,720	$335
96*	$2,440	$1,720	$720
97	$2,220	$1,956	$264
98	$2,691	$1,990	$701
99	$2,645	$1,999	$646
00	$2,341	$2,001	$340
01	$2,780	$2,190	$590
02	$2,470	$2,208	$262
03	$2,617	$2,249	$369



10 year average net income/cow/year - $462/cow
Number of cows required to net $50,000 = 108 cows

Hogs, Farrow - Finish-03 MN AVG-Per CWT	50 Farms Quantity	Average CWT	10 Farms Quantity	Low CWT	10 Farms Quantity	High CWT
Raised Hog Sales	94.44	$39.46	91.68	$35.90	92.71	$40.81
Transferred Out	1.38	$0.78	3.92	$1.15	2.7	$1.14
Cull Sales	4.9	$1.37	10.16	$3.36	4.87	$1.34
Butchered	0.21	$0.09	1.38	$0.51	0.09	$0.03
Less Livestock Purchased	-2.22	($2.04)	-1.27	($1.27)	-2.57	($2.25)
Less Livestock Transferred In	-0.12	($0.09)	0	$0.00	-0.07	($0.14)
Inventory Change	1.41	$3.08	-5.87	($2.80)	2.27	$5.35
Total Production	100.00	$42.65	100.00	$36.85	100.00	$46.28
Other Income		$0.02		$0.01		
Total Return		$42.67		$36.86		$46.28
Direct Costs						
Corn (bushel)	3.77	7.95	6.25	13.6	2.57	5.24
Complete Ration	60.74	5.56	0	0	103.47	7.05
Protein Vit Minerals (lbs)	61.86	8.69	94.08	16.24	60.32	7.93
Other feedstuffs	0.26	0.24	0.08	0.11	0.25	0.14
Total Feed		$22.44		$29.95		$20.36
Breeding fees		0.47		0.47		0.52
Veterinary		1.38		1.36		1.32
Livestock supplies		0.79		0.57		0.52
Fuel & oil		0.45		1.54		0.24
Repairs		0.81		1.85		0.55
Custom hire		1.65		2.22		0.83
Machinery & bldg leases		0.59		0.00		0.91
Livestock leases		0.29		0.00		0.00
Utilities		0.12		0.33		0.06
Hauling and Trucking		0.18		0.00		0.44
Marketing		0.37		0.61		0.27
Operating interest		0.37		0.21		0.40
Total Direct Costs		$29.91		$39.11		$26.42
Return to Direct Costs		$12.76		($2.25)		$19.86
Overhead Costs						
Custom hire		0.52		0		1.55
Hired labor		2.03		0.36		1.64
Machinery & bldg leases		1.38		0.67		3.86
Farm insurance		0.48		0.67		0.38
Utilities		0.62		0.84		0.41
Interest		1.08		0.47		0.73
Mach & bldg depreciation		1.56		1.14		1.25
Miscellaneous		0.46		0.62		0.26
Total Overhead Costs		$8.13		$4.77		$10.08
Total Costs		$38.04		$43.88		$36.50
Net Return		$4.63		($7.02)		$9.78
Est. Labor Hours per Unit		0.33		0.44		0.28
Labor & Management Charge		2.23		3.72		2.09
Net Return over Lbr. & Mgt.		$2.40		($10.74)		$7.69

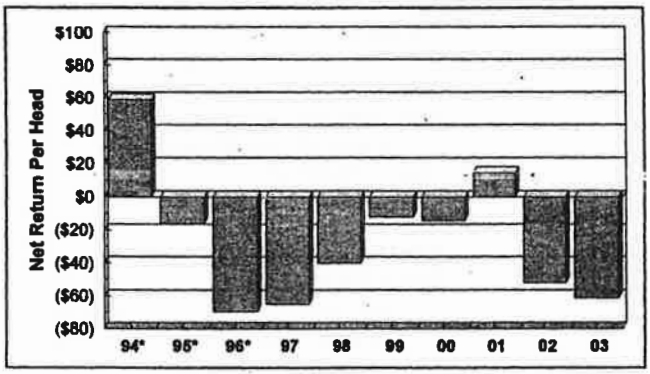
Enterprise History			Per CWT
Year	T. Return	T. Costs	Net Ret.
94*	$37.69	$41.49	($3.80)
95*	$42.85	$38.30	$4.55
96*	$55.72	$46.83	$8.89
97*	$48.90	$44.06	$4.84
98	$31.70	$36.08	($4.38)
99	$38.50	$34.21	$4.29
00	$42.30	$36.17	$6.13
01	$44.02	$37.46	$6.56
02	$36.40	$37.49	($1.09)
03	$42.67	$38.04	$4.63



10 year average net/CWT of pork produced - $3.62/CWT
20 pigs/sows X 250 lbs./market pig X $3.62/CWT = $181/net/sow
Number of sows to net $50,000 – 280 sows producing 5,600 market hogs per year

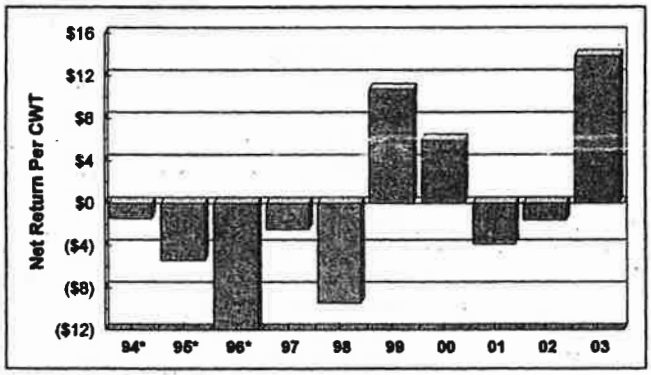
Dairy Replacement Heifers			Per Head
Year	T. Return	T. Costs	Net Ret.
94*	$425.62	$366.70	$58.92
95*	$453.72	$469.60	($15.88)
96*	$347.67	$417.09	($69.42)
97	$349.00	$414.00	($65.00)
98	$378.00	$418.00	($40.00)
99	$534.00	$546.00	($12.00)
00	$521.00	$535.00	($14.00)
01	$465.32	$450.64	$14.68
02	$404.00	$456.00	($52.00)
03	$409.00	$470.18	($61.18)

*Regional data used prior to 1997



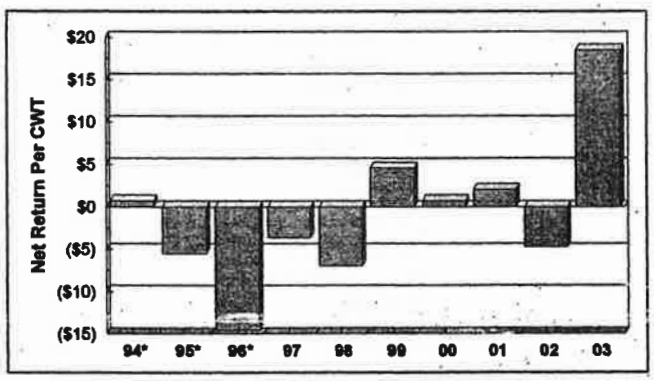
Dairy Steers			Per CWT
Year	T. Return	T. Costs	Net Ret.
94*	$50.35	$51.75	($1.40)
95*	$45.36	$50.75	($5.39)
96*	$59.29	$71.25	($11.96)
97	$63.73	$66.14	($2.41)
98	$46.65	$56.07	($9.42)
99	$64.54	$53.81	$10.73
00	$59.30	$53.37	$5.93
01	$51.67	$55.50	($3.83)
02	$52.35	$53.91	($1.56)
03	$77.18	$63.29	$13.89

*Regional data used prior to 1997

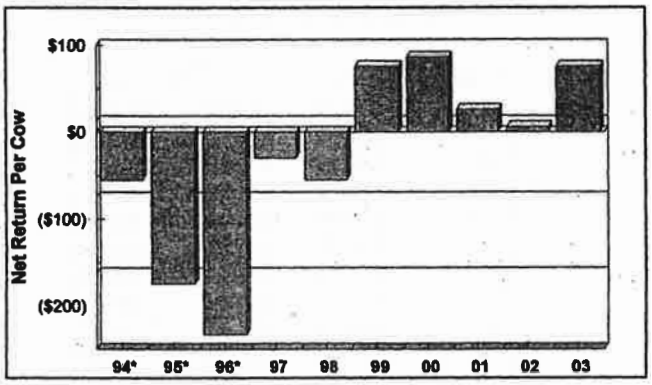


Beef Finishing -All			Per CWT
Year	T. Return	T. Costs	Net Ret.
94*	$50.44	$49.73	$0.71
95*	$48.36	$53.87	($5.51)
96*	$59.58	$74.15	($14.57)
97	$55.54	$59.15	($3.61)
98	$47.61	$54.60	($6.99)
99	$54.83	$50.26	$4.57
00	$50.00	$49.28	$0.72
01	$52.24	$50.21	$2.03
02	$45.49	$50.21	($4.72)
03	$74.65	$56.15	$18.50

*Regional data used prior to 1997



Beef Cow-Calf			Per Cow
Year	T. Return	T. Costs	Net Ret.
94*	$325.43	$380.44	($55.01)
95*	$223.11	$397.47	($174.36)
96*	$245.56	$478.49	($232.93)
97	$421.11	$450.64	($29.53)
98	$374.89	$429.39	($54.50)
99	$479.57	$403.77	$75.80
00	$459.58	$373.17	$86.41
01	$430.77	$404.72	$26.05
02	$420.22	$413.88	$6.34
03	$492.24	$416.51	$75.73



Minnesota's 80,000 Farmers And Their Gross Annual Revenue

NUMBER OF FARMS, LAND IN FARMS, AND AVERAGE SIZE: Minnesota, 1993-2004 1/

Year	Number of Farms	Land in Farms	Avg. Size of Farms
	Number	1,000 Acres	Acres
1993	86,000	29,700	345
1994	84,500	29,500	349
1995	83,000	29,400	354
1996	82,000	29,200	356
1997	81,000	29,100	359
1998	80,000	28,600	358
1999	81,000	28,200	348
2000	81,000	27,900	344
2001	81,000	27,800	343
2002	80,900	27,800	344
2003	80,000	27,700	346
2004	79,800	27,600	346

1/ A farm is any establishment from which $1,000 or more of agricultural products were sold or would normally be sold during the year.

NUMBER OF FARMS: By Economic Sales Class Minnesota, 1999-2004

Year	$1,000-$9,999	$10,000-$99,999	$100,000-$249,999	$250,000-$499,999	$500,000 & Over	Total
	Number					
1999	30,500	29,500	12,400	5,500	3,100	81,000
2000	32,100	28,400	11,600	5,500	3,400	81,000
2001	33,900	27,100	10,900	5,400	3,700	81,000
2002	35,400	26,200	10,000	5,400	3,900	80,900
2003	35,200	25,500	10,000	5,400	3,900	80,000
2004	34,800	25,500	9,900	5,500	4,000	79,800
	44%	32%	12%	7%	5%	= 100%

Please note the following:

1. During an eleven year period from 1993 – 2004 MN lost 6,200 farms and 2 million acres of farmland. The farmland loss may not be as great as shown in the above graph because U.S. D.A. statistics show that MN lost 2 million acres of farmland since 1978. This loss represents 1/15 of all MN farmland. Experts believe most of this loss is due to urbanization as well as other land-use changes.

2. Forty-four percent of MN farms produce less than $10,000 of sales per year. Seventy-six percent (44% + 32%) produce less than $100,000 in sales.

3. Only seven percent, or 5400 farms, produce between $250,000 and $499,999 in sales, which is enough to support one or two families.

4. Only five percent, or 3900 farms, produce over $500,000 in sales.

Source: 2004 Minnesota Agricultural Statistics, published in late 2004

Conclusion

If a full time family farmer expects to make a living ($50,000 net/year) on the farm producing Minnesota's major commodities, the farmer must plan on producing enough to have annual cash farm income (gross revenue) of at least $300,000.

To generate $300,000 of cash farm income a farmer will need 900 acres of corn or 700 acres of soybeans, or 1200 acres of wheat, or 400 acres of alfalfa, or 108 dairy cows, or 280 sows producing 5600 market hogs per year, or some combination of these enterprises.

If two families are involved these numbers would need to almost double.

Only 12% of Minnesota's 79,800 farms produce over $250,000 of the annual cash farm income. Let's not promote poverty on the farm by fighting against farmers that want to grow their business. Instead, let's promote prosperity on the farm, and enthusiastically accept, encourage, support, respect and appreciate farmers that invest, reinvest, and grow their business.

* Farms producing for a niche market, using low input systems, organic producers, those producing specialty crops, or using on-farm processing to add value, may be able to achieve a higher net profit as a percent of gross cash operating income.

Livestock Production Helps Protect the Environment

1. Cattle, sheep, and horse production requires **hay, pasture and small grain production. This rotation controls erosion and runoff** much better than the typical corn-soybean rotation and also has significant groundwater quality benefits.

2. Fields fertilized with manure that have been properly managed, have increased water holding capacity. Peer reviewed research from across the U.S. shows **runoff is reduced 2-62%, and soil loss is reduced 15-65%** as compared to control sites that were not fertilized with manure. (Gilley and Risse, 2000)

3. University of Minnesota research at Morris shows **decreased phosphorus runoff** at sites fertilized with manure that is properly managed. (Ginty and others, 1998)

4. A Minnesota Pollution Control Agency study completed in 2004 found that **only 1% of the phosphorus entering our surface water is coming from feedlots.** In contrast, non-agricultural rural runoff contributes 5.7% of the total phosphorus and septic systems another 3.7%. (Barr Engineering, 2004)

5. **Nitrogen leaching losses on fields fertilized with manure applied at agronomic rates are comparable and sometimes less than fields using commercial fertilizer.** Manure has the advantage of slowly releasing nitrogen over a two year period.

6. **Acreage of perennial forages, such as alfalfa and clover, are increased with dairy and beef operations. These crops are excellent at reducing nitrate leaching losses which are 30 to 50 times less than a corn-soybean rotation.** (Randall and others, 1997)

7. Minnesota Department of Natural Resources research in SE Minnesota over a 30 year period shows that **streams in pastures that were rotational grazed had better water quality than the same streams in areas that were not grazed.** This is partially due to trees growing up in non-grazed areas, causing the grass to die, resulting in more stream bank erosion. Where the cattle grazed, the trees did not grow, but the grass grew, right down to the edge of the stream providing excellent erosion control. Today trout are more numerous in the grazed portion of the stream. (DeVore 1998, Sovell and others, 2000)

8. Farmers that produce livestock are more likely to make a living on the farm and will continue to farm in the future. **Successful farms ensure that open space and agricultural land is preserved, wildlife habitat is protected, selling off lots for non-farm development is less likely to occur.** This helps address one of the major concerns of many environmental organizations and that is controlling urban sprawl.

Estimated Total Phosphorus Contributions to MN Surface Water

1. Crop land and pasture runoff	26.4%
2. Atmospheric deposition	13.1%
3. Commercial/Industrial water use	12%
4. Stream bank erosion	11.1%
5. Municipal sewage treatment plants	10.9%
6. Nonagricultural rural run-off	5.7%
7. Urban run-off	4.8%
8. Waste food/garbage disposal waste	4.2%
9. Septic tanks	3.7%
10. Automatic dishwasher detergent	2.8%
11. Agricultural tile drainage	1.8%
12. Roadway and sidewalk de-icing chemicals	1.1%
13. ***FEEDLOTS***	**1.0%**
14. Raw and finished water supply	.8%
15. Toothpaste, mouthwashes, etc.	.3%
16. Non-contact cooling water	.2%
17. Ground water intrusion into sewage systems	Less than .1%

Please note:

1. Feedlots are in 13th place and contribute only 1% of the phosphorus entering the surface waters of the state.

2. Non agricultural rural runoff is in 6th place and contributes 5.7% of the total phosphorus. New DNR Shoreland Recommended Rules require lake lots to have no more than 15% impervious surfaces. Research shows if 10-15% is exceeded, lake water quality is negatively affected. Very few existing lake homes meet this new proposed standard.

Source: "Detailed Assessment of Phosphorus Sources to MN Watersheds," prepared by the Barr Engineering Company, February, 2004, for the MN Pollution Control Agency.

Dairy Cows are Good Land Stewards

Joe Conlin, Professor Emeritus, University of Minnesota, Quality Dairy Management Services
4850 Lakeview Drive, Shoreview, MN 55126

The dairy industry is based on use of renewable resources and therefore is one of the state's most sustainable environmental and economic engines. Cropping systems have been changing as dairy cows leave the Minnesota landscape. Minnesota had one dairy cow for every 54 acres of farm land in 2001, compared to one for every 19 acres in 1945. Hay and pasture cover crops are being replaced with less sustainable continuous row crops. This leaves our valuable soil resources vulnerable to water and wind erosion and reduces our ability to control weeds and crop diseases through cultural practices and natural crop diversity.

There is little use for pasture or hay crops without cows. Therefore, as the cows leave, our cropping systems have become dependent on continuous row crops, corn and beans as cash crops.

Cows help keep the nutrient cycle in balance. Remember balanced sustainable systems will use the nutrients more than once. The corn plant produces nitrogen in the form of protein, phosphorus, and potassium and essential nutrients for the cow. These nutrients are also supplemented from other sources to produce milk. The cow excretes what she doesn't use for milk and body maintenance in the manure. The manure from each cow contains enough nitrogen and phosphorus potash fertilizer equivalents to grow 1 to 1.5 acres of corn, producing 150 bushels per acre when recycled back to the land to be used as a fertilizer. Without the cow in the equation, all of the crop nutrients will need to be purchased through commercial fertilizer. Thus a cash crop system has been compared to mining the soil of crop nutrients.

Manure is a valuable plant soil resource that reduces the need for commercial fertilizers. It is also a potential pollution risk when not controlled and handled properly as are commercial fertilizers. Both are potential pollutants with improper handling and application.

Present day acceptable manure management systems are much different than of the past. Modern dairy technology has made great strides in controlling and conserving the manure nutrients to be more available to the crops and reduce the potential hazard to the environment. These systems provide storage for the manure nutrients for 365 days to control and preserve nutrients for crop production. Manure can now be applied strategically timed to make the best use for crop production, injected into the soil to minimize runoff and volatilization loss. Soil injection also controls most of the odor at spreading.

Minnesota has very strict standards for the construction of storage basins. These standards are science based taking in to account the soil types, topography and other factors related to the proposed site. Present day manure management plans insure application rates of manure nutrients are kept in balance with crop needs to prevent potential pollution.

Many of the manure management practices of the past such as daily hauling and surface spreading year round, open lots lacking drainage diversion from water sources, applying manure to the handiest areas nearby, and stacking on in areas without runoff containment are discouraged. Many of these practices ended up insulting our present environmental values and standards for the environment. The goal is to make our environment safe for this and future generation. The bottom line is that our environmental values have changed, Minnesota has strict standards to reflect these new values, and great strides have been made with new technology to protect our environment. Perceptions based on the past don't hold. New science, technology, and standards have brought us to a new era of protecting our environment. Animal agriculture is an essential part of sustaining our environment for future generations. Dairy cows are good land stewards.

1/17/03

Odor Control

Livestock producers have made tremendous improvements in recent years in controlling odor. This is due to a very large investment in scientific research, field studies, better building and manure storage design, improved management and the hard work of livestock farmers, and the many businesses and professionals that are part of this industry. Examples of these improvements are as follows:

1. Odor control plans are usually required for new and expanding farms.

2. New open pit lagoons for swine have been banned by the legislature. In the past they generated the most complaints.

3. New swine barns usually store manure in deep concrete pits located directly under the barn where the wind cannot blow across the surface and carry odor away from the site.

4. Some swine barns have bio-filters to clean all air leaving the barn and manure storage areas. These filters are relatively inexpensive, use wood chips or other biomass and can remove over 90-95% of the odor.

5. In new improved production facilities storage capacity is large enough to hold 12 months of manure production. With the services of a commercial manure applicator, these storage areas can be quickly pumped out through a long hose attached to tillage equipment pulled by a large tractor and injected directly into the soil which prevents nutrient loss and controls odor. Soil and manure nutrient tests results are used to calculate the agronomic application rate so manure is not over applied. All this can be accomplished in a very short period of time in late fall or early spring when temperatures are cooler, further minimizing the production of offensive odor.

6. Best management practices and many conditional use permits require surface applied manure to be incorporated with tillage equipment within four to twenty-four hours of application to preserve nutrients and control odor.

7. Ration changes, pit additives, better sanitation, dust control, tree windbreaks and other improvements have enhanced odor control.

8. With funding from the MN Legislature, the University of Minnesota, Department of Bioscience and Agricultural Engineering has developed the Offset system which predicts the percentage of time at different distances, the average person will be able to smell a livestock production facility. The kind of livestock, the number of animal units, the type of facility and odor control technologies used are all part of the formula. Some modern facilities using the best odor control technology can achieve 99% of the time odor free at a distance of a quarter mile. This is calculated for the warm season months of the year, on level ground with no obstructions. So if trees or hills are part of the landscape this further improves odor control.

Some rural counties have considered setting a standard that requires the farm to be free of odor 93% of the time at a distance of ¼ mile.

9. Methane digesters have been added to some large farms. This is excellent odor control technology. The methane is harvested from the manure, burned to produce electricity for use on the farm or sold to a local power company. The remaining manure is odor free and is then used as fertilizer.

RalphLenz with his cow calf herd.

Lenz Farm west of Lake City, MN. This section of the creek has been rotationally grazed for 30 years. No trees grow here but the grass does right down to the edge of the stream providing excellent erosion control.

Lenz Farm creek that has not been grazed for 30 years. The trees grew, but the grass died and significant streambank erosion returned.

A properly sited and engineered livestock farm which is properly managed, follows the new 7020 MN State feedlot rules, and implements Best Management Practices is good for the environment because:

1. Less soil erosion
2. Less water runoff
3. Less phosphorus runoff
4. Less nitrogen leaching
5. Better soil fertility
6. Better water quality
7. Less urban sprawl
8. Fewer vehicles on the road commuting to distant jobs
9. More diversity in cropping systems
10. More pasture land
11. Fewer row crops on marginal land
12. More open space is preserved
13. More agricultural land is preserved
14. More wildlife habitat is protected
15. Better control of plant disease, weed and insect cycles
16. Better odor control

Human and Animal Population Density
Comparison of 4 MN Counties with Lancaster County, PA

	Lancaster County, PA	Meeker County, MN	McLeod County, MN	Wright County, MN	Carver County, MN
Area in sq. miles	949	644	503	716	357
Population 2002	470,658	22,644	34,898	89,986	75,620
Population per sq. mi.	496	35	69	126	212
All Cattle 2003	255,700	29,500	32,500	47,500	35,000
Milk Cows 2003	107,600	8,100	9,100	12,100	12,800
Hogs 2003	386,800	61,000	38,000	21,000	25,000
All Sheep and Lambs 2003	6,100	1,700	700	1,100	600
All Chickens 2003	13,000,000	1,562,000	NA	NA	NA
Turkeys 2003	NA	2,000,000	NA	NA	NA

Please note:
Lancaster County has almost 500 people per square mile and Meeker County has only 35 people per square mile, however Lancaster County has a tremendous livestock population. They have 9 times more cattle, 13 times more milk cows, 6 times more hogs, and almost 9 times more chickens than Meeker County.

Lancaster County animal statistics are from 2002. MN counties are 2003. Information compiled from various state and county web sites, U.S. Bureau of Statistics, MN Dept. of Agriculture, and USDA.

Comparison of Livestock and Human Populations in Minnesota, the United Kingdom (England, Scotland, Wales, Northern Ireland), Netherlands, Denmark, and Italy

	Minnesota	United Kingdom	Netherlands	Denmark	Italy
Area in square miles	84,000	94,000	13,000	16,000	55,000
Human Population 2000	5 million	60 million	16 million	5.4 million	28 million
People per square mile	59	638	1231	331	512
Cattle	2.6 million	11.3 million	3.8 million	NA	7 million
Cattle per square mile	31	120	292	NA	127
Sheep	170,000	42 million	NA	NA	11 million
Sheep per square mile	2	447	NA	NA	200
Hogs	6 million	NA	11 million	13 million	9 million
Hog per square mile	71	NA	846	813	164
Poultry	78 million (includes 46 million turkeys)	44 million	100 million	NA	NA
Poultry per square mile	929	468	7692	NA	NA

Please note:
Minnesota only has 59 people per square mile while the listed European countries have 312 to 1231 people per square mile. In spite of the large human population in every category they have more livestock than Minnesota. For example, Minnesota has 59 people, 31 cattle, 71 hogs, and 929 poultry per square mile. The Netherlands has 1231 people, 292 cattle, 846 hogs, and 7692 poultry per square mile.

Information compiled from various state and county web sites, U.S. Bureau of Statistics, MN Dept. of Agriculture, and USDA. European information from www.epp.eurostat.cec.eu.int.

Conclusions and Recommendations

High livestock and human populations peacefully coexist in much of the world. Minnesotans should strive to be more like citizens of the United Kingdom, Denmark, the Netherlands, or Lancaster County, PA who live in close proximity to farmers that use diverse production systems ranging from small pastures to large modern confinement barns. They live together in the same neighborhood in peace and harmony.

The "Not in My Backyard" Problem

There are many things America needs to make our society work. Some of those needs are met by physical structures near which many people do not wish to live. However these structures need to be placed somewhere.

For the benefit of society as a whole, I believe it is our duty as Americans to be willing to accept living in neighborhoods we may not find completely ideal. For example, we all need electricity. Someone must live next to the power plants, transmission lines, nuclear storage sites, coal mines, oil wells, and pipelines to make electricity available to all of us.

We all need automobiles, trucks, trains and airplanes. Someone must live next to the iron mines, automobile manufacturing facilities, oil refineries, ethanol plants, gas stations, major highways, railroads, airports, gravel pits, asphalt and concrete plants to make our transportation system work.

We all need building materials. Someone must live next to the saw mills, brick factories, shingle factories, retail outlets, etc.

Society needs landfills, jails, prisons, mental hospitals, halfway houses, and homes for the handicapped. Someone must live next to them.

We also need food, fiber, and fuel to feed, clothe and provide energy for this hungry and cold world. Somebody has to live near the farmers that produce these essential products.

If everyone was successful stopping a project in their neighborhood because of the "Not in my backyard" problem, it would shut our country down economically, socially, and environmentally. We would not even be able to turn on the lights, put fuel in our car, or have a place to dispose of our garbage.

For the good of society as a whole, let's do our duty and accept some structures in our neighborhood which we do not like. After all, someone else is living in neighborhoods next to essential structures they may not like, but we receive a benefit from these structures, as does society as a whole.

Growth of Minnesota Livestock Farms

Most of the growth is from family farmers growing their livestock enterprise so they can continue making a living on the farm, or so they can bring the next generation into the farm business.

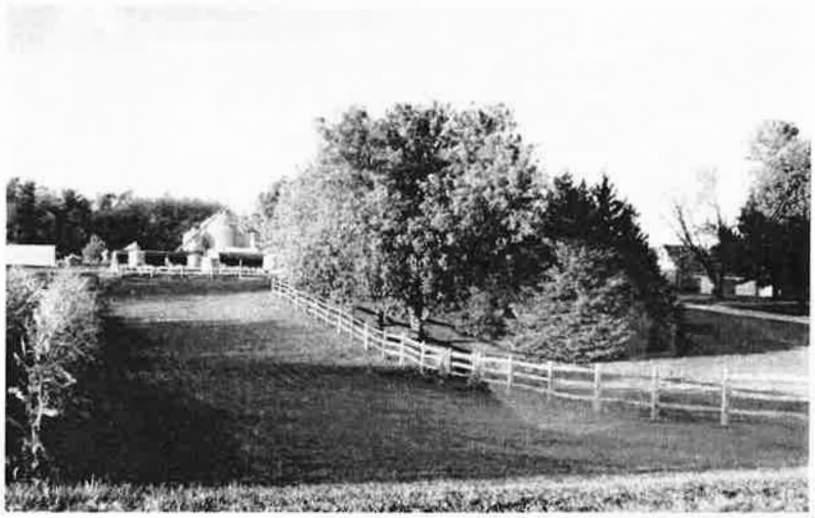
Minnesota has an anti-corporate farm law that prevents large corporations from entering the business of production agriculture. Anti-animal production activists often use the words "factory farm" and "corporate farm" in a condescending and inflammatory way that does not convey accurate information. All farms are factories; some are small factories and some are larger factories. Both large and small may use confinement systems or pasture, or open lot systems.

In Minnesota there are 3034 entities registered under the corporate farm law. 2269, or 75% of them are family farm partnerships, family farm corporations, or other family farm entities. They often choose to organize their farm business this way to make it easier to pass the farm on to the next generation.

Unfortunately many family farmers who once dreamed of going into a farm business partnership with a son or daughter have had the dream destroyed by a hostile social and political climate that exists because of a misunderstanding of the economic and environmental benefits of livestock production.

We should strive to be farmer-friendly neighbors and neighbor-friendly farmers.

This is a family owned and operated dairy farm. They milk 200 cows. The labor and management is provided by Mom, Dad, a teenage son and a teenage daughter. This is a well-run operation located on a small creek. Most of the manure is stored in a clay-lined manure storage basin constructed under modern engineering specification and inspected during and after construction by the Minnesota Pollution Control Agency. Usually once a year in the cool days of late fall the manure is pumped out of the basin through a long hose and is injected into the soil by a tillage tool pulled by a tractor. A long hose is dragged back and forth across the field. Manure is injected immediately into the soil which minimizes mitrogen loss to the air and controls odor. This farmer is a "neighbor-friendly farmer."



A diversified family farm producing corn, soybeans, and hogs. This is a well-run, neat, and orderly farrow to finish hog farm with excellent management. Before spreading manure, the owner carefully considers the weather forecast, wind direction, and the day of the week, and checks with this neighbors to see if special events are planned and other factors. Incorporation of the manure into the soil with a disk or other tillage implement is important soon after application to minimize nitrogen loss and control odor. This farmer is a "neighbor-friendly farmer."

Alfalfa field with round bales left on the field. Alfalfa is produced only for livestock. It's excellent for soil erosion control. A corn/ soybean rotation leaches 30 to 50 times more nitrogen per year than alfalfa.

CONCLUSION

Livestock

Is **Good** For The **Economy**
And
Good For The **Environment**

The time has come for Minnesotans to step out of the dark shadows of fighting against livestock farmers that are growing their business because of a false premise that livestock is bad for the economy and bad for the environment. Instead, Minnesotans should step into the bright sunshine of enthusiastically supporting livestock farmers that are growing their business because livestock is good for the economy and good for the environment.

Minnesota Needs more Livestock

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What do the experts say about Sen. Steve Dille's report entitled "Livestock is Good for the Economy and Good for the Environment"?

"Without question this document is based on a correct interpretation of fact."

Dr. George Rehm, University of Minnesota Professor Department of Soil, Water and Climate. Soil Nutrient Management Specialist

"Cattle, grass and streams can exist together as a sustainable ecosystem with proper management. Controlled grazing reduces the amount of sediment entering a stream, improves water quality and enhances fish habitat."

Ralph Lenz, Agriculture teacher, farmer and grazing researcher, Lake City, Minnesota

"I commend Senator Steve Dille for presenting the evidence that, 'Livestock is good for the Economy and Good for the Environment.' After reviewing his summary of Minnesota State Colleges and Universities Farm Business Management Database Reports, I find that he has done an accurate and logical interpretation of this information. As a lifetime citizen of Minnesota, a former livestock producer, and agriculture educator for the past twenty five years, I support Senator Dille's conclusions and recommendations supporting the livestock industry in Minnesota. I strongly encourage the citizens and leadership of Minnesota to give full consideration to his assertion that 'Minnesota Needs More Livestock'."

James Molenaar, Regional Dean of Farm Business Management Education Minnesota State Colleges and Universities, Ridgewater College, Willmar, Minnesota

"It is an excellent product."

Daryn McBeth, MN Agri-Growth Council, St. Paul, Minnesota

"Your document is very comprehensive and clearly brings out many factors that need to be considered as policy is developed for animal agriculture."

Dr. Gyles Randall, Soil Scientist and Professor, University of Minnesota, Southern Research and Outreach Center, Waseca

"Animal agriculture is an essential part of sustaining our environment for future generations. Dairy cows are good land stewards."

Dr. Joe Conlin, Professor Emeritus, University of Minnesota, Quality Dairy Management Services

"Livestock producers have a tremendous opportunity to contribute a multitude of net environmental benefits to Minnesota's water and soil resources."

Bruce Montgomery, Soil Scientist, Minnesota Department of Agriculture