

## Highlights from 2007 Ag Census & 2010 WI Grazing Producer Surveys

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## Background:

- 2007 US Ag Census asked this question (Section 32, Practices, question 1-G, Appendix B, p. 47):  
*During 2007, did this operation practice rotational or management intensive grazing?*
- **11,469 Wisconsin producers responded “Yes” to this question!**
- This very interesting number prompted another question:

*Can we survey these producers for more specific data on their grazing management practices and attitudes?*

## Methods:



- Funding support from WI-Grazing Lands Conservation Initiative (WI-GLCI)
- **WI Ag Census data was sorted based on the “MiG” question from the 2007 data set**
- Short surveys were also developed to ask additional questions
- **In late 2010, surveys were sent to grazing dairy and beef producers by WASS, using standard randomized survey methods and**
- Dairy responses:  
 n = 538 data responses from 1,568 mailed surveys
- Beef responses:  
 n = 1,848 data responses from 3,307 mailed surveys

## Some Wisconsin Grazing Statistics...

### Dairy

- 3,070\* farms use MiG
- 22% of WI dairy farms
- Ave. herd size: 61 cows
- RHA: 15,430 lbs/cow
- Stocking rate: 1.5 ac. per cow
- Percentage of ration from pasture:
  - Herds < 50 cows: 66%
  - Herds > 50 cows: 49%



\* imputed average **Source: 2007 USDA Ag Census**



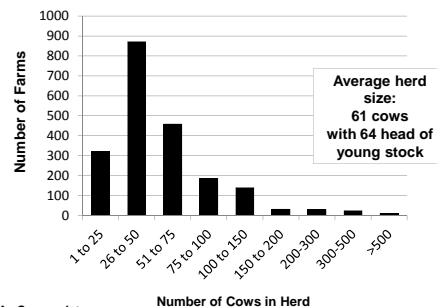
## Dairy Grazing Farms by Region

WASS Survey Region	Total Dairy Farms	Grazing Dairy Farms	%
Central	845	131	16
East Central	1756	183	10
North Central	1735	400	23
Northeast	637	87	14
Northwest	1004	241	24
South Central	1290	188	15
Southeast	360	42	12
Southwest	1734	489	28
West Central	1600	369	23

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2007 US Ag Census data

## Wisconsin Grazing Dairy Farms by Herd Size



2007 US Ag Census data

### Per Cow Production Costs for WI Dairy Farms from 2007 USDA Ag Census

Cost Category	MiG Dairy Farms	Non-MiG Dairy Farms	Percent MiG: Non
Hired labor	\$439	\$635	0.69
Feed cost	\$626	\$732	0.86
Equipment rent	\$114	\$129	0.88
Custom work	\$128	\$144	0.89
Chemical cost	\$89	\$99	0.90
Land & facilities rent	\$178	\$194	0.91
Depreciation	\$415	\$444	0.93
Fuel cost	\$158	\$163	0.97
Repairs cost	\$301	\$304	0.99
Fertilizer cost	\$180	\$172	1.04
Utilities cost	\$104	\$98	1.06
<b>Total</b>	<b>\$2730</b>	<b>\$3116</b>	<b>0.88</b>

### Dairy Pasture Management Strategies from the 2010 survey

Rotation Frequency:

	2 or more times/day	Once a day	Every 2 to 3 days	Every 4 to 6 days	About once a week	Less than once a week	Never
Lactating cows	20	16	13	9	18	9	15
Dry cows	6	9	15	8	18	15	29
Replacement heifers	4	5	10	7	15	22	37

Fall Residual Grazing Heights:

< 4 inches	4 - 5 inches	6 - 7 inches	8 - 9 inches	10+ inches
<i>percent</i>				
50	35	12	2	1

### Dairy Pasture Supplementation Strategies from the 2010 survey

What percent of the ration is provided by pasture during the grazing season?

Herd size	Lactating cows	Dry cows	Replacement heifers
	<i>percent</i>		
1 - 49	66	70	76
50 - 99	49	59	65
100+	49	68	73

- About 15% of herds reported feeding no grain to lactating cattle, although some herds may receive corn from silage.

### Dairy Pasture Management Strategies from the 2010 survey

Related Grazing Practices:

Practice	Response	Comments
Provide water on pasture	68%	
Use permanent paddock divisions	57%	
Use strip grazing to subdivide paddocks	34%	
Use a leader-follow system	19%	
Soil testing	53%	
Commercial fertilizer on pastures	46%	
Nutrient management planning	47%	
Pasture irrigation	3%	
Out wintering	24%	Sacrifice paddocks: 30% Windbreaks: 23%



### Why Do MiG Dairies Like Grazing?

- Improved animal health (80%)
- Reduced production costs/increased net income (79%)
- Reduced labor/more time for my family (71%)
- Environmental performance: (46%)
- 89% said they were satisfied or very satisfied with their farming systems ("quality of life")

Source: 2010 DATCP Grazing Dairy Survey



### Some Wisconsin Beef Grazing Statistics...

- 42% of WI beef farms indicated that they use a managed grazing system for their herd (4,763 farms)
- Average herd size: 27 head
- Stocking rate: 3.4 acres per brood cow and 1.53 ac. per head, including young stock
- Percentage of pasture in ration: 74%

Cow-calf Herd Rotation Frequency	% of Farms
1 - 3 days	17%
4 - 7 days	41%
> 7 days or set stocking rates	42%

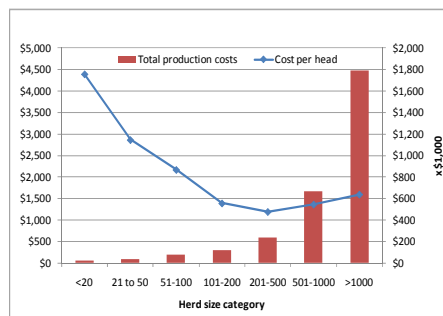
Source: 2007 US Ag Census and 2010 WI Beef Grazing Survey

### WI Production Costs per Cow for MiG and non-MiG Beef Farms

Cost Category	MiG Beef Farms	Non-MiG Beef Farms	Percent MiG: Non-MiG
Hired labor	\$258	\$352	0.73
Feed cost	\$144	\$193	0.75
Equipment rent	\$75	\$118	0.64
Custom work	\$54	\$80	0.68
Chemical cost	\$78	\$98	0.80
Land & facilities rent	\$190	\$231	0.82
Depreciation	\$207	\$264	0.78
Fuel cost	\$73	\$88	0.83
Repairs cost	\$110	\$130	0.85
Fertilizer cost	\$130	\$171	0.76
Utilities cost	\$40	\$51	0.78
<b>Total</b>	<b>\$1359</b>	<b>\$1776</b>	<b>0.77</b>

Source: 2007 US Ag Census

### Cost of Production and Total Farm Costs



### Beef Pasture Management Strategies from the 2010 survey

Rotation Plan for WI Beef Cattle Groups							
	2 or more times/day	Once a day	2 – 3 days	4 – 6 days	Every 7 days	Less than once/ week	Never
	Percent						
Beef cows	3	4	10	9	32	26	16
Calves	3	5	10	9	31	25	17
Finish animals	2	6	6	4	17	19	46

Fall Residual Grazing Heights				
<4 inches	4-5 inches	6-7 inches	8-9 inches	10+ inches
Percent				
53	34	10	2	<1

### Beef Pasture Management Strategies from the 2010 survey

Management Practice	Percent	Comments
Stockpiling	21	
Leader/follower grazing	11	
Strip grazing	15	
Mob grazing	25	
Permanent paddock division	47	
Provide water on pasture	59	(tanks or natural source)
Soil testing	31	
Nutrient management planning	24	
Commercial fertilizers (NPK)	38	
Pasture irrigation	1	
Outwintering	31	Windbreaks: 31% Sacifice Paddocks: 16%
Bedded pack	25	
Compost barn	13	



#### Top 4 Reasons Identified in 2010 WI Beef Graziers' Survey (more than one choice allowed):

- Lower production costs/increased net income (83%)
- Reduced labor inputs/more family time (68%)
- Improved animal health (64%)
- Improved environmental performance (49%)

90% indicated SATISFACTION with their choice!!

### Resources

- 2011 Dairy & Beef Summaries are Available online at:  
<http://fyi.uwex.edu/grazres/>
- WI 2007 Ag Census full report:  
[http://www.agcensus.usda.gov/Publications/2007/Full\\_Report/Volume\\_1,\\_Chapter\\_1\\_State\\_Level/Wisconsin/wiv1.pdf](http://www.agcensus.usda.gov/Publications/2007/Full_Report/Volume_1,_Chapter_1_State_Level/Wisconsin/wiv1.pdf)

# To Corn or Not to Corn?

Doug Marshall  
April 4, 2012



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The big question:  
What is the best way to invest my  
time, my money, and my talents on  
my farm?



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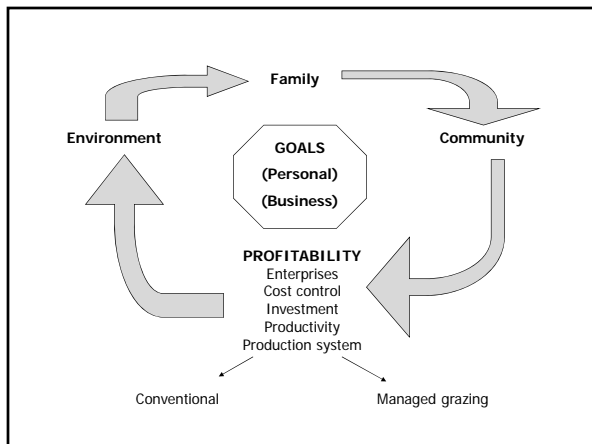
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We Can Compare Enterprise Profit Potential Best by Using a Budget Format..

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### Enterprise Profit Potential?

- Enterprise Budget
  - Budget for a single crop or livestock enterprise
  - Considers only one production system
  - Includes income and expense estimates
  - Should include detailed assumptions
  - Very useful in planning a start-up
  - Help existing operations look at alternatives



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### Enterprise Budget

- Three parts
  - Expected gross income
  - Expected expenses
    - Variable costs
    - Overhead or "fixed" costs
  - Expected profit (loss)



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## Enterprise Budgeting--Costs

- **Variable Costs**

- Costs that increase as farm production increases
- Can include seed, feed, fertilizer, vet expenses, utilities

- **Overhead Costs**

- Costs that exist on the farm whether or not anything is being produced
- Can include mortgage, taxes, depreciation, labor

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Sauk County Livestock Enterprise Budget	
<b>EXPECTED REVENUE</b>	
Expected market weight: _____ x expected market price/lb: _____ =	\$ _____/head
<b>COSTS</b>	
<b>Variable costs per head during the feeding period:</b>	
Cost or initial value of animal	\$ _____/head
<b>Feed costs</b>	
Purchased feed cost	\$ _____/head
Estimated value of homegrown feeds	\$ _____/head
Veterinary and medicine costs	\$ _____/head
Livestock supplies	\$ _____/head
Marketing costs	\$ _____/head
Hauling	\$ _____/head
Death loss _____% x expected revenue/head	\$ _____/head
Other variable costs	\$ _____/head
<b>Total Variable Costs</b>	<b>\$ _____/head</b>
Return above Variable Costs (Expected Revenue - Total Variable Costs)	\$ _____/head
<b>Overhead (Fixed) costs per head during the feeding period:</b>	
Housing cost (daily "yardage" charge x # of days on-feed)	\$ _____/head
Machinery and equipment	\$ _____/head
Labor cost (Est. labor hours x reasonable hourly wage)	\$ _____/head
<b>Total Overhead Costs</b>	<b>\$ _____/head</b>
<b>TOTAL COST (Total Variable Costs + Total Overhead Costs)</b>	<b>\$ _____/head</b>
<b>BREAK-EVEN MARKET PRICE TO COVER VARIABLE COSTS</b>	<b>\$ _____/pound</b>
<small>(Total Variable Cost divided by Expected Market Weight)</small>	
<b>BREAK-EVEN MARKET PRICE TO COVER ALL COSTS</b>	<b>\$ _____/pound</b>
<small>(Total Cost divided by Expected Market Weight)</small>	
<b>NET RETURN (Expected Revenue - Total Cost)</b>	<b>\$ _____/head</b>

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## Uses for the enterprise budget

- Which enterprises are likely to generate most profit
- Amount of operating money needed
- Provokes thought about:
  - How much labor is required
  - How costs could be cut
  - How risks can be reduced




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## Enterprise budgets won't...

- Tell you about “profitability” of the whole farm (need income statement and balance sheet for that)
- Tell you about “cash flow” of the whole farm (need a statement of cash flows for that)

They only tell you whether or not an enterprise is likely to generate a profit



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## Let's Look at Some Enterprise Budgets....

- Corn
- Soybeans
- Alfalfa
- Dairy Conventional and Grazing
- Beef Stockers
- Beef Cow-Calf
- Dairy Heifer Grazing



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LIVE Sauk County web cam, April 4, 2012

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**STEER BUDGET Pasture 2012**

JOE  
BLOW

250 Head

Section	#/Head	Unit	Price	Per head	Per Group
<b>I. Gross Returns:</b>					
Steers	850.00	Lbs.	1.50	1275.00	318750
Total				1275.00	318750
<b>II. Variable Costs:</b>					
Purchase	550.00	Lbs.	1.80	990.00	247500
rumineral	25.00	lb	0.22	5.50	1375
Pasture	1.00	acre	150.00	150.00	37500
spring yardage	20.00	days	1.10	22.00	5500
misc spring pro	1.00		21.69	21.69	5423
wormer	1.00		2.80	2.80	700
Vet & Med	1.00	Unit	5.00	5.00	1250
Death Loss	0.02	%	990.00	19.80	4950
Marketing	1.00	Unit	15.00	15.00	3750
Insurance	1.00	Unit	2.00	2.00	500
Risk protection			10.00	10.00	2500
Trucking	1.00		5.00	5.00	1250
Int Op Cap	0.03	%	1056.53	15.85	3962
Total				1264.64	316159
<b>III. Fixed Costs:</b>					
Four Wheeler	2500.00		\$ 0.18	1.80	450
Fence	2500.00		\$ 0.16	1.60	400
Labor	3.00	Hrs.	12.00	36.00	9000
Management	1.00		\$ 0.02	25.50	6375
Total				64.90	16225
<b>IV. Total Costs:</b>					
			\$/Cwt.	\$/Head	\$/Group
Without Fixed Costs			148.78	1264.64	316159
Without Labor & Management			149.18	1268.04	317009
With Labor & Management			156.42	1329.54	332384
					0
<b>V. Returns by Category</b>					
			\$/Cwt.	\$/Head	\$/Group
Gross Returns			150.00	1275.00	318750
Less Variable Costs			148.78	1264.64	316159
Returns over Variable Costs			1.22	10.36	2591
Less Fixed Capital Costs			0.40	3.40	850
Returns to Labor & Management			0.82	6.96	1741
Less Labor Costs			4.24	36.00	9000
Returns to Management			-3.42	-29.04	-7259
Less Management Costs			3.00	25.50	33903
Returns to Enterprise			-6.42	-54.54	-13634





Enter values in the yellow cells

**Conventional Dairy**

	Quantity	Unit	Unit Value	Total per Cow	Total per cwt
<b>Gross Returns from Milk:</b>	220	cwt	\$ 17.00	\$ 3,740.00	\$ 17.00
<b>Feed Costs:</b>					
Forage	6.35	ton	\$ 130.00	\$ 825.50	\$ 3.75
Corn	114.00	bu	\$ 6.00	\$ 684.00	\$ 3.11
Soybean Meal	1700.00	lbs	\$ 0.20	\$ 340.00	\$ 1.55
Dical	175.00	lbs	\$ 0.40	\$ 70.00	\$ 0.32
T.M. Salt	90.00	lbs	\$ 0.10	\$ 9.00	\$ 0.04
<b>Total Feed Costs</b>				\$ 1,928.50	\$ 8.77
<b>Livestock Costs:</b>					
Milk Hauling	1	cwt	\$0.40	\$ 88.00	\$ 0.40
Bedding	1	cow	\$55.00	\$ 55.00	\$ 0.25
Vet & Medicine	1	cow	\$130.00	\$ 130.00	\$ 0.59
Breeding Costs	1	cow	\$60.00	\$ 60.00	\$ 0.27
Utilities, Power, & Fuel	1	cow	\$90.00	\$ 90.00	\$ 0.41
Supplies	1	cow	\$125.00	\$ 125.00	\$ 0.57
Marketing & Other Costs	1	cow	\$90.00	\$ 90.00	\$ 0.41
<b>Total Livestock Costs</b>				\$ 638.00	\$ 2.90
<b>Cow Ownership Costs (Net of Calf Sales):</b>					
Purch. Replacement Cow	0.33	head	\$ 1,500.00	\$ 495.00	\$ 2.25
Less: Sale of Cull Cow	0.33	head	\$ 800.00	-\$ 264.00	-\$ 1.20
Death Loss Replacement	0.02	head	\$ 1,500.00	\$ 30.00	\$ 0.14
Less: Sale of Calf	0.84	head	\$ 125.00	-\$ 105.00	-\$ 0.48
<b>Total Depreciation &amp; Death Loss</b>				\$ 156.00	\$ 0.71
<b>Labor &amp; Management Costs:</b>					
Labor for Milking	11.41	hours	\$ 12.00	\$ 136.92	\$ 0.62
Labor for Feeding	12.00	hours	\$ 12.00	\$ 144.00	\$ 0.65
Labor for Cow Care	10.00	hours	\$ 12.00	\$ 120.00	\$ 0.55
Labor for All Other Activities	8.00	hours	\$ 12.00	\$ 96.00	\$ 0.44
Management Fee on Gross Income	\$ 3,740.00		5.00%	\$ 187.00	\$ 0.85
<b>Total Labor &amp; Management Costs</b>				\$ 683.92	\$ 3.11
<b>Facilities and Equip. Costs:</b>					
Milking Center Structure	\$ 360.00	cow	10.33%	\$ 37.20	\$ 0.17
Housing Structure	\$ 1,400.00	cow	10.33%	\$ 144.67	\$ 0.66
Manure Storage Structure	\$ 850.00	cow	10.33%	\$ 87.83	\$ 0.40
Milking Equipment	\$ 460.00	cow	15.50%	\$ 71.30	\$ 0.32
<b>Total Facility and Equipment Costs</b>				\$ 341.00	\$ 1.55
<b>Total Costs</b>				\$3,747.42	\$ 17.03
<b>Net Returns to Assets</b>				-\$ 7.42	-\$ 0.03
<b>Rate of Return on Average Assets</b>				-0.32 %	

Developed by Bruce L. Jones, Department of Agricultural and Applied Economics and Center for Dairy Profitability, University of Wisconsin-Madison and Ken Barnett, University of Wisconsin-Extension and Center for Dairy Profitability

Enter values in the yellow cells

<b>Grazing Dairy</b>
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	Quantity	Unit	Unit Value	Total per Cow	Total per cwt
<b>Gross Returns from Milk:</b>	200	cwt	\$ 17.00	\$ 3,400.00	\$ 17.00
<b>Feed Costs:</b>					
Forage	6.35	ton	\$ 88.62	\$ 562.74	\$ 2.81
Corn	104.00	bu	\$ 6.00	\$ 624.00	\$ 3.12
Soybean Meal	1400.00	lbs	\$ 0.13	\$ 182.00	\$ 0.91
Dical	155.00	lbs	\$ 0.40	\$ 62.00	\$ 0.31
T.M. Salt	85.00	lbs	\$ 0.10	\$ 8.50	\$ 0.04
<b>Total Feed Costs</b>				\$ 1,439.24	\$ 7.20
<b>Livestock Costs:</b>					
Milk Hauling	1	cwt	\$0.40	\$ 80.00	\$ 0.40
Bedding	1	cow	\$36.85	\$ 36.85	\$ 0.18
Vet & Medicine	1	cow	\$110.00	\$ 110.00	\$ 0.55
Breeding Costs	1	cow	\$50.00	\$ 50.00	\$ 0.25
Utilities, Power, & Fuel	1	cow	\$60.00	\$ 60.00	\$ 0.30
Supplies	1	cow	\$125.00	\$ 125.00	\$ 0.63
Marketing & Other Costs	1	cow	\$90.00	\$ 90.00	\$ 0.45
<b>Total Livestock Costs</b>				\$ 551.85	\$ 2.76
<b>Cow Ownership Costs (Net of Calf Sales):</b>					
Purch. Replacement Cow	0.22	head	\$ 1,500.00	\$ 330.00	\$ 1.65
Less: Sale of Cull Cow	0.22	head	\$ 800.00	-\$ 176.00	-\$ 0.88
Death Loss Replacement	0.02	head	\$ 1,500.00	\$ 30.00	\$ 0.15
Less: Sale of Calf	0.84	head	\$ 125.00	-\$ 105.00	-\$ 0.53
<b>Total Depreciation &amp; Death Loss</b>				\$ 79.00	\$ 0.40
<b>Labor &amp; Management Costs:</b>					
Labor for Milking	11.41	hours	\$ 12.00	\$ 136.92	\$ 0.68
Labor for Feeding	8.00	hours	\$ 12.00	\$ 96.00	\$ 0.48
Labor for Cow Care	6.00	hours	\$ 12.00	\$ 72.00	\$ 0.36
Labor for All Other Activities	8.00	hours	\$ 12.00	\$ 96.00	\$ 0.48
Management Fee on Gross Income	\$ 3,400.00		5.00%	\$ 170.00	\$ 0.85
<b>Total Labor &amp; Management Costs</b>				\$ 570.92	\$ 2.85
<b>Facilities and Equip. Costs:</b>					
Milking Center Structure	\$ 360.00	cow	10.33%	\$ 37.20	\$ 0.19
Housing Structure	\$ 1,400.00	cow	10.33%	\$ 144.67	\$ 0.72
Manure Storage Structure	\$ 425.00	cow	10.33%	\$ 43.92	\$ 0.22
Milking Equipment	\$ 460.00	cow	15.50%	\$ 71.30	\$ 0.36
<b>Total Facility and Equipment Costs</b>				\$ 297.08	\$ 1.49
<b>Total Costs</b>				\$2,938.09	\$ 14.69
<b>Net Returns to Assets</b>				\$ 461.91	\$ 2.31
<b>Rate of Return on Average Assets</b>				22.29 %	

University of Wisconsin-Extension and Center for Dairy Profitability



**Grazing Dairy Heifers 2012**

100 Head

Section	#/Head	Unit	Price	Per head	Per Group	Per Acre
<b>I. Gross Returns:</b>						
Heifers Yardage	180.00	days	2.00	360.00	36000	553.85
Total	1.54	hd/acre		360.00	36000	
500-824lbs						
<b>II. Variable Costs:</b>						
Purchase	0.00	Lbs.	0.00	0.00	0	
rumineral	25.00	lb	0.22	5.50	550	8.46
Pasture	0.55	acre	150.00	82.50	8250	126.92
spring yardage	7.00	days	1.75	12.25	1225	18.85
grain mix	360.00		0.13	45.00	4500	69.23
wormer	1.00		2.80	2.80	280	4.31
Vet & Med	1.00	Unit	5.00	5.00	500	7.69
Death Loss	0.02	%	700.00	14.00	1400	21.54
Marketing	1.00	Unit	0.00	0.00	0	0.00
Insurance	1.00	Unit	0.60	3.00	300	4.62
Risk protection			0.00	0.00	0	0.00
Trucking	1.00		0.00	0.00	0	0.00
Int Op Cap	0.03	%	172.64	2.59	259	3.98
Total				172.64	17264	265.60
<b>III. Overhead Costs</b>						
Four Wheeler	2500.00		\$ 0.18	4.50	450	6.92
Fence	2500.00		\$ 0.16	4.00	400	6.15
Labor	3.00	Hrs.	12.00	36.00	3600	55.38
Management	0.00		\$ 0.06	21.60	2160	33.23
Total				66.10	6610	101.69
<b>IV. Total Costs:</b>						
			\$/Cwt.	\$/Head	\$/Group	
Without Fixed Costs			95.91	172.64	17264	265.60
Without Labor & Management			100.63	181.14	18114	278.68
With Labor & Management			132.63	238.74	23874	367.29
					0	
<b>V. Returns by Category</b>						
			\$/Cwt.	\$/Head	\$/Group	
Gross Returns			200.00	360.00	36000	553.85
Less Variable Costs			95.91	172.64	17264	265.60
Returns over Variable Costs			104.09	187.36	18736	288.25
Less Overhead Capital Costs			4.72	8.50	850	13.08
Returns to Labor & Management			99.37	178.86	17886	275.17
Less Labor Costs			20.00	36.00	3600	55.38
Returns to Management			79.37	142.86	14286	219.79
Less Management Costs			12.00	21.60	5157	33.23
Returns to Enterprise			67.37	121.26	12126	186.55