



## Cow Capital at Grazeway Dairy

This analysis was conducted to demonstrate the capital building and income potential benefits of a prescribed grazing system for production.



This analysis was completed by using herd information gathered over five years from Grazeway Dairy owned and operated by Terri & Rick Hawbaker in Pewamo, MI. The data gathered included start up herd numbers, culled cows, and all calves born. The data was used to calculate the heifer success ratio (percentage of heifer calves born that become milking cows), the herd size to maintain the farm’s goals, and the income projections for excess heifers available for sale. Herd numbers were projected out over the next 10 years using a spreadsheet tool.

### Summary of Results on a per Cow Basis: Over Her Lifetime She Produces

1. Milk Production
2. Generates Her Replacement
3. 6 Extra Heifers to Sell as Breeding Stock

The expected results were to have a financial forecast of income from cattle sales and longevity targets for culling rates. This would allow the farm to use economic data to target culling and evaluate the number of heifers raised for replacements.

Our objectives were to use one farm’s data for analysis to show that a conservation plan with a prescribed grazing grassed based farming system:

1. Can build capital benefits from cow longevity.
2. Profitable grass farming creates excess heifers for sale or to increase herd size.

The analysis found that the use of heifer success ratio and other calculations helps to target culling based on capital asset value of the cow and her potential to build capital value through her productivity over her lifespan. Grassed based dairy systems have profitable production that can generate herd growth to maintain and increase the capital value of the herd. Thus Terri’s phrase “Cow Capital” for her herd.

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### Grazeway Dairy – Overview

- Seasonal Grazing Farm in growth stage from start up to target number of Milking Cows
- Kept animals in start up years to expand herd
  - 2007 Net Sales 9
  - 2008 Net Sales 25
- Selling extra heifers as 3-5 day olds at \$300 - \$400 per animal.

Extra Heifers Generated per Cow					
2004	2005	2006	2007	2008	Average
6.05	6.17	6.36	6.36	5.70	6.13

Following the steps for calculation of the number of extra heifers per cow generates the number of extra heifers available for building the herd (expansion) or heifers to sell (as dairy animals to other operations). These calculations start with the heifer success ratio and after calculations result in the added capital gain in cattle.

### Capital Growth with Cattle Calculations

#### Heifer Success Ratio - calculating the extra number of heifers per cow with case farm data

year	2004	2005	2006	2007	2008
total calves	64	89	96	103	108
bulls	36	46	59	54	48
heifers	28	43	37	49	60

heifer survival rate at birth					
heifers DOA (death @birth-24hr)	4	0	4	5	3
survived %	85.7	100.0	89.2	89.8	95.0

% heifers grown & become pregnant					
default 85%	82	95	89	97	90.6

Success Ratio	0.903673	1.016279	1.2657633	0.9599	0.68856
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Calvings to generate a replacement					
	1.11	0.98	0.79	1.04	1.45

Average Number of Calvings per Cow					
Cull Rate %	15	15	15	15	15
Calving Interval Mo.	13	13	13	12.5	13
years in herd	6.67	6.67	6.67	6.67	6.67
Lactations/Cow	6.15	6.15	6.15	6.40	6.15
calvings/cow	7.15	7.15	7.15	7.40	7.15

Extra Heifers Generated per Cow					
	6.05	6.17	6.36	6.36	5.70

Running the culling rates and cow numbers in the Ohio State University spreadsheet allowed us to project the future herd growth. Based on those numbers the farm will continue to have 15% culling rate with about 60% of the herd as heifers. The growth rate of cow capital is 16% and after growing to their target number of cows desired in the operations allows the farm to sell 11 extra animals per year and maintain stable herd numbers.



This analysis shows the benefits of cow longevity which is a major benefit of a conservation plan that includes a grazing system.

Thank you to Rick and Terri at Grazeway for sharing their producer experience on how of how a dairy farm can get established and grow with a grass system.

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