



Internal Herd Growth



Generating Profits through Management



Total Dairy Management



What is Internal Herd Growth



- ⌘ Generating more dairy replacements than you need to maintain herd size.
- ⌘ Interaction of two components:
 - ☑ How many replacements do you need to maintain herd size?
 - ☑ How many replacements are you generating?
- ⌘ Many different areas of farm operations impact these two components.



How Many Replacements do You Need?



Farm Credit
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⌘ Centered in the milking herd.

☑ How many cows have to be replaced?

☑ Why do they have to be replaced?

☒ Died

☒ Mastitis

☒ Reproduction

☒ Low milk production

☒ Etc.

☑ What could be done to decrease the number that need to be replaced?



Economics



- ⌘ By requiring fewer replacements to maintain herd size, you minimize expenses associated with maintaining herd size.
 - ☑ If paying \$1,500 per replacement with a replacement rate of 50%, you will spend \$150,000 per year to maintain a 200 cow dairy.
 - ☑ If you can lower replacement rate to 30%, you will spend \$90,000 to maintain same 200 cow dairy.



**Total Cost per Year to Maintain Herd Size
Purchasing All Replacements
Herd Size **200 Cows****

Cow Replacement Rate	Price of Dairy Replacements								
	\$1,300	\$1,400	\$1,500	\$1,600	\$1,700	\$1,800	\$1,900	\$2,000	\$2,100
22%	57,200	61,600	66,000	70,400	74,800	79,200	83,600	88,000	92,400
26%	67,600	72,800	78,000	83,200	88,400	93,600	98,800	104,000	109,200
30%	78,000	84,000	90,000	96,000	102,000	108,000	114,000	120,000	126,000
34%	88,400	95,200	102,000	108,800	115,600	122,400	129,200	136,000	142,800
38%	98,800	106,400	114,000	121,600	129,200	136,800	144,400	152,000	159,600
42%	109,200	117,600	126,000	134,400	142,800	151,200	159,600	168,000	176,400
46%	119,600	128,800	138,000	147,200	156,400	165,600	174,800	184,000	193,200
50%	130,000	140,000	150,000	160,000	170,000	180,000	190,000	200,000	210,000

Prepared by: Jason Karszes, Senior Extension Associate, PRO-DAIRY, Cornell University



Economics



- ⌘ Lower or little financial gain from internal herd growth if:
 - ☑ Attain IHG by keeping unprofitable and/or low profit cows in the herd.
 - ☑ Costs associated with preventing cows from leaving the herd too high.

How Many Replacements are You Generating?



⌘ Combination of milking herd and replacement program.

☑ How many calves born per year?

☒ Calving interval

☑ Ratio of heifer calves to bull calves.

☑ How many heifer calves born dead?

☒ DOA

☑ How many calves don't complete replacement program?

☒ Non-Completion percent – or “heifer cull rate”

How Many Replacements are You Generating?



- ⌘ If all four in your favor, you can generate many replacements.
- ⌘ If 3 in your favor, may still be able to generate more heifers than needed.
- ⌘ If 2 in your favor, will be difficult to generate excess heifers.
- ⌘ If only one factor in your favor, may be difficult to maintain herd size.

Required Number of Heifer Calves per Year to Maintain Herd Size For Various Non-Completion Rates and Dairy Replacement Rates

Herd Size **200** DOA Rate[^] **5%**

Non-Completion Rate*, Percentage	Cow Replacement Rate, Percentage								
	23	26	29	33	36	39	42	45	
2	49.5	55.9	62.4	71.0	77.4	83.9	90.3	96.8	
4	44.0	57.1	63.7	72.5	79.1	85.7	92.3	98.9	
6	44.9	58.4	65.2	74.2	80.9	87.6	94.4	101.1	
8	46.0	59.7	66.7	75.9	82.8	89.7	96.6	103.4	
10	47.1	61.0	68.2	77.6	84.7	91.8	98.8	105.9	
12	48.2	62.3	69.9	79.5	86.7	94.0	101.2	108.4	
14	49.4	63.6	71.6	81.5	88.9	96.3	103.7	111.1	
16	50.6	64.9	73.4	83.5	91.1	98.7	106.3	113.9	
18	51.9	66.2	75.3	85.7	93.5	101.3	109.1	116.9	

* Non completion rate represents the percent of heifers that start the replacement system that don't enter the dairy herd.

[^] DOA Rate represents the percent of heifer calves that are born dead.

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Economics



- ⌘ By generating more heifers than needs, you have the ability to generate additional earnings:
 - ☑ If need 50 replacements and only generate 50, no gain.
 - ☑ If generate 60, have 10 more than needed.
 - ☑ If generate 40, have to purchase 10 to maintain herd size.

Economics



⌘ Lower or little financial gain from internal growth if:

⊞ The cost to raise the heifers is high.

⊞ Labor

⊞ Feed

⊞ Inventory – older calving age

⊞ If the quality of the replacement is low.

⊞ Less profitable animal in the herd: i.e. stunted or fat

Capturing the Value of Internal Growth



- ⌘ Internal growth is having more animals than you need.
- ⌘ Capturing value becomes a management decision.
- ⌘ Many different ways to capture value.
- ⌘ Mission, vision, values, goals of family and business important when evaluating.

Growing Herd Size



- ⌘ The extra animals generated enter the dairy herd.
- ⌘ Grow herd size without purchasing outside animals.
- ⌘ Have the ability to handle increased numbers or can easily add the capacity.
- ⌘ Increase profits through increased utilization of assets.
- ⌘ If not full or not at maximum size for site, may be best means to capture value.

Key Factors



- ⌘ Control genetics and quality of replacements.
- ⌘ Slow steady growth over time.
- ⌘ Can grow with closed herd.
- ⌘ Operating expenses (feed, labor, etc). used to build balance sheet assets (cattle).
- ⌘ Has to be economical to grow.

Selling Milking Cows



- ⌘ All replacements enter the herd.
- ⌘ Sell the least profitable dairy cows in the herd.
- ⌘ Market them for dairy purposes.
- ⌘ Average a higher price than beef price.

Key Factors



- ⌘ Stable herd size.
- ⌘ Keep replacements – may be better genetics.
- ⌘ Keep calf that replacement heifer is carrying.
- ⌘ Improve dairy herd by replacing less profitable COWS.
- ⌘ Increase value of animals sold through higher price for dairy vs beef.
- ⌘ Capturing most of the calf crop.

Selling Springing Heifers



- ⌘ Raise heifers.
- ⌘ Sell excess animals at calving for replacements purposes.

Key Factors



- ⌘ Stable herd size.
- ⌘ Pick which animals enter herd vs are sold.
- ⌘ For animals sold – no risk if they don't make it through calving.
- ⌘ Possible loss of genetic progress: replacement and calf she's carrying.
- ⌘ Possible fewer calves entering system.

Selling Calves



- ⌘ Sell excess heifers early in age.
- ⌘ Only raise enough that are needed to maintain herd size.

Key Factors



- ⌘ Stable herd size.
- ⌘ Limited replacement program capacity.
- ⌘ Pick which calves to raise.
- ⌘ Minimized replacement expense.
- ⌘ Increased calf sales.
- ⌘ Limited number of heifers if unusual event in dairy or replacement program.

Leasing Animals



- ⌘ Keep all animals.
- ⌘ Lease out excess milking animals.

Key Factors



- ⌘ Building herd size – increasing assets.
- ⌘ No investment in buildings/land, etc.
- ⌘ Keep all genetics and calves.
- ⌘ If animals come home – no longer closed herd.
- ⌘ Make return on investment in cattle.
- ⌘ Return may be negative!

Take Home Points



- ⌘ Internal herd growth is a profit source under control of management.
- ⌘ Interaction among many areas of the business.
- ⌘ Operational costs building assets on the balance sheet, not just maintaining assets.
- ⌘ Means of capturing value is a management choice.