When to Cull Cows

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Involuntary vs. Voluntary cull

• **Involuntary cull:**
  – Cows that must leave the herd because they have low production due to health and(or) reproduction problems and(or) have incurable disease

• **Voluntary cull:**
  – Cows are culled because they are not enough profitable and can be replaced by better and higher profitable cows
1. **Is the barn filled to capacity?** If the barn is not at capacity, the first goal should be to fill the barn. In virtually every economic analysis it is more profitable to fill a stall with a milking cow vs. leaving the stall empty. The lost profit from having an empty stall is typically $600 to 800 dollars per cow per year (6).

2. Once the barn is full, the profitability of every cow in the herd should be questioned. **Is it more profitable to keep her or to replace her?** The answer depends on milk price, feed cost, the difference between cull and replacement values and the availability of capital.

3. **What is your overall cull rate?** Is it too high or too low? What benchmark are you comparing it to?

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**Aims**

- Identifying the least profitable cows
- Minimizing the abrupt loss of high producing cows (profitable cows)
- Optimizing carrying capacity of high-producing cows on the dairy
Advantages of Healthy Voluntary Cull

- Increase the rolling herd average
- Decrease mastitis and lower the somatic cell count
- Improve reproduction
- Improving the management efficiency and increase profitability

*High culling rate does not necessarily translate to profitability*

Typical approach for culling cows

- Making decision based on a set level of production and feed costs
  
  **Example:**
  
  Milk price = $12.50/cwt  
  Feed cost =  
  3.50/cow/day  
  Avg. milk yield = 36 lb  
  Milk income = $1.00  
  Other costs = $0.20  
  
  If happy with ~ $0.80, then any cow produces less than 36 lb → cull
What Are the Drawbacks?

- It does not consider other costs
- Too much relies on milk price

For Example:

If price increases to $15/cwt ➞ a 30 lb/day-cow can still make $1.00 a day!?

Result: cow-cull production threshold drops

A Better Alternative for Culling decision

Take these items into consideration:

- Heifer production
- Replacement costs
- Cull cow price
  Desired return rate on investment
A Better Alternative for Culling decision
Cont.

- Minimize involuntary culling (elimination due to mastitis, foot, disease, and reproductive problem) so that you can increase the number of voluntary culls due to low production.

- This management strategy provides the producers with more flexibility for selecting cull cows, and ultimately improves dairy's profitability.

Abbreviations for Culling Decision Formula

- HP = heifer production
- CCP = cull cow production
- CBWt = cull-cow weight
- ROI = return on investment
- RC = replacement cost
- Beef Price, Milk Price, Heifer price
• RC = Heifer Price - (Beef Price X CBWt)

• ROI = ~25 % return on investment

• RC/305 X ROI = (HP - CCP) X Milk price/lb