

When to Cull Cows

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Reference: Dr. J. Hoeck and D. Kluth
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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?

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 Draw Backs?

- 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**

HP= heifer production
CCP = *cull cow production*
CBWt = cull-cow weight
ROI = return on
investment
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- $RC = \text{Heifer Price} - (\text{Beef Price} \times \text{CBWt})$
- ROI = ~25 % return on investment
- $RC/305 \times \text{ROI} = (\text{HP} - \text{CCP}) \times \text{Milk price/lb}$