



## Heifers: *Should They Grow or Should They Go*

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Heifers are an important investment for the future of every dairy herd. They should provide high quality replacements for improving genetics and provide high milk production over several lactations.

Important information on achieving these goals was presented during the second online 2021 Cow College session by Stephanie Plaster, UW Extension educator in Washington and Ozaukee counties, who focuses on dairy and livestock management. "For several years producers thought that it was better to keep heifers than cull them," Plaster related. "We actually reached our peak in 2016, and in 2018 we still had .509 heifers per milk cow. A few years ago we saw prices in the \$2,500 range, and it made sense to keep them around because the market price was higher than the break-even cost," she said.

Heifer inventories have gone down in the past couple of years, along with market prices. "The market for dairy heifers ranged from only \$700 to \$1,600 as of November 2020," she reported.

### PROPER HERD SIZE

In order to reach the goal of raising high quality heifers, producers need to properly size their herds, according to Plaster.

"You need to know how many replacements you need and identify those heifers with the desired genetics," she emphasized. "You want to invest in only those heifers that meet your desired goals, and you have to find a place for the heifers you don't need."

Several factors must be considered when culling heifers. Heifer mortality rate and culling rate are vital to determining herd size. More assistance in calculating how many replacements should be in your herd is available on the UW Dairy Management tool website: <https://dairymgt.info/tools.php>

The average dairy replacement life cycle is about 730 days divided into a pre-weaning, weaning-to-breeding and breeding-to-gestation periods. "It's important to



remember that a first lactation heifer doesn't cover her upfront cost until midway through her second lactation," Plaster said.

**"Milking too many first lactation animals can decrease the average production of the herd, reduce milking efficiency and take away your profits.** Surplus heifers can push out cows in the prime of the career when an animal has paid her bills," said Plaster.

### MANAGING HERD TURNOVER

"When sorted for herd turnover costs, the difference in production between the top third and bottom third of herds was 12 pounds of milk per day, adding up to \$376 per year of net farm income. Additionally, the bottom herds in the study had actual net herd turnover costs double that of the top herds - \$1.99 and 91 cents, respectively," she reported.

While you need to have replacement heifers, it should not come at the expense of older milking cows, which leads to lower milk production and decreased profitability.

A first-lactation animal generally produces 15% less milk than a second-lactation cow, and 25% less than cows in their third and fourth lactations. **"Older cows can actually make more money because they produce more milk than first-lactation animals that haven't been in your herd long enough to cover upfront expenses,"** said Plaster.

"To balance herd turnover costs, set long-term goals to reduce culling levels closer to the 25-30% range to

maximize profitability," she advised. By keeping these older, peak productivity cows in the herd you reduce the significant expense of raising heifers to breeding age. In turn, profit is optimized without having to invest in more heifers than you need."

## TIMES TO CULL

Culling opportunities occur at birth, weaning, pre-breeding and breeding.

Calves that do not meet standards for health and growth should be evaluated to determine the risk of keeping them in the herd. Another important consideration is knowing which heifers should be kept, which should be culled and which heifers should be grown for beef.

"If we can't raise a heifer calf that will make it through her first lactation, we're not going to break even on her, so we need to make sure we're keeping around heifers that will succeed through their first lactation," said Plaster.

One of the ways to make culling decisions is to monitor calf health. "Illness can affect performance in lactation," she noted. "A calf's greatest potential is at conception. From that point on extraneous impacts can take a measure of potential productivity."

Possibly a calf's most vulnerable time is during her first 60 days, when illness can negatively affect her future performance.

First-lactation cows that have had pneumonia are likely to see a decrease of 700 pounds of milk during their life. Disease-free calves had a 5% greater chance of remaining in the herd through 305 days in milk, and an 8% likelihood of remaining 730 days compared to calves with two or more disease occurrences.

**Nutrition can make or break a calf during its first 120 days.** "We want to make sure we're doubling birth weight in the first 56 days, having it grow about 4 to 5 inches, and making sure it's getting enough colostrum," stressed Plaster.

## IDENTIFY BEST ANIMALS

Genomics can help identify those bottom-end calves and bottom-end cows so farmers can make better decisions on whether we breed, beef or cull.

"Even when you're breeding some of those cows, you can spend some time evaluating if the high-end cow gets sexed semen, and if the lower-end cows get beef semen; that way you can actually get more value," she said.

During the pre-breeding phase the focus should be on growth, with an optimum weight gain of 2.21 pounds per day.

"If you're weaning at 180 pounds and your goal is to breed at 900 pounds, you're going to need 720 pounds of gain over that time period," stressed Plaster. "Make sure you calculate for your specific standards, but our standard is 56 days for weaning, and breeding at 339 days. To get the average divide 720 pounds by 339 days."

## BREEDING MANAGEMENT

Breeding management should feature a targeted approach. "We want to breed our first animals at 55% of mature body weight, hopefully by 13 months. We're going to re-breed the first group by 14.5 months, so that hopefully 100% of the heifers should be bred by 15 months," Plaster advised.

Animals that aren't getting bred right away may have more issues moving forward and may become cows that don't breed back, which will mean more expense.

Summing up, Plaster said, "You can help determine the right herd size and how many replacements you'll need by using the tools on the dairy management website. Identify heifers with the higher genetics to make sure they remain in the herd. Invest only in calving those that meet your goals.

"Also, have a plan for heifers that you don't need. Do we breed to beef, or make those culling decisions earlier? And make sure you're not keeping chronically sick animals that are going to negatively affect the herd as they grow."



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