HOW LONG DO YOUR COWS LAST?

by Katelyn Allen

CEO of the living assets" is how Siebren Jacobi describes the position of a herd manager. To him, that important role means keeping the herd at Rocking S Dairy in Modesto, Calif., healthy and fertile. Jacobi's goal is for his cows to reach their fourth lactation and spend as much of their productive life as possible in the "profit phase" after they have paid back the costs of their rearing.

And while the economic factor is a significant motivator for keeping cows around, animal welfare is also a high priority for dairy customers — so it must be for farmers, too. Jacobi, born and raised on a dairy farm in the Netherlands, stressed during the Dairy Cattle Reproduction Council Annual Meeting that dairy farmers must be prepared to meet the public's requests for continually better animal care.

Because of the combination of farm and off-farm factors, Jacobi is a strong believer that raising animals right and making them last longer will be an even bigger part of dairy profitability moving forward. If retail companies decline to buy milk from farms that don't follow animal welfare standards, for example, Jacobi pointed out this is something agricultural lenders could take into account when determining a farm's risk potential and thus credit availability.

Start at the beginning

After completing a CowSignals animal care training program last year, Jacobi said he learned that cows in the Netherlands average 3.8 lactations in their lifetime. In California, he said that number is just 1.9.

"Everything comes back to health and fertility," the herd manager emphasized when discussing how to keep cows in the herd for more lactations.

Without high performance in those areas, a farm can get stuck in a cycle of a high culling rate, Jacobi said. Removing more cows from the herd because they are sick or don't breed back means you need more replacements, and in that scenario, shortcuts may be made to raise a greater number of heifers. When those animals are not physically ready to be in the milking herd, they are more likely to be culled quicker, fueling the next round of replacements.

"We're so busy doing things with the cows that we barely have time to take care of them," Jacobi quipped, pointing out that sometimes the biggest enemy on a farm is the humans.

The elephant in the room to reduce the need for culling milking cows is calf health, he continued. This is the first area where top-notch animal care is crucial for the farm's success, but it begins long before the calf is born. With more dairies, including Rocking S, making extensive use of sexed semen on heifers, he pointed out that 70% of a heifer calf crop may be born to virgin heifers. However, these are the animals that often get subpar focus in terms of facilities and care. They may have less heat abatement, greater stocking rates, and exposure to more toxins than the milking herd. "The animal that needs the most gets the least," Jacobi summarized.

The effects of an animal's stress on its fetus are well documented, so quality calf care must begin with recognizing how we can create a favorable in-utero environment. From there, quality colostrum, disease attention, and housing help a calf develop into a cow that can withstand the cycle of lactation and reproduction multiple times.

Tools to turn the ship

In addition to creating an environment in which animals can thrive, Jacobi is a proponent of genetic change. Genomic testing has made a difference on their farm and is part of the equation of breeding healthier, more fertile cows. "Selection is the quickest route to success," he described.

Though he wants cows to stick around in the herd for as long as possible, he also wants those cows to have genetics that are worth breeding from. Cows are marked "do not breed" if they fail to conceive after three services. Bulls with high daughter pregnancy rate (DPR) feature prominently in his breeding program. The Rocking S herd has made more genetic progress in DPR, somatic cell score, and mastitis resistance than the Holstein breed as a whole in recent years, Jacobi described by showing genomic testing results. "It is possible to turn the ship genetically," he noted. However, he also lamented the fact that more bulls high in fertility and health traits are not marketed and available to dairy farmers. "Do we need a survival index next to the profit indexes?" he asked.

Building an efficient herd, which boosts longevity plus economic and environmental sustainability, depends on a combination of phenotypic and genotypic efforts, Jacobi advocated. Farms must be able to provide an environment that keeps animals healthy and allows them to express the genetics they possess, which we can select for thanks to a number of available traits and selection indices. To know where to start, recognize what type of race you're preparing for, he advised. Is it robots? Grazing? Commercial cows? That provides a baseline of knowing what kind of cow will need to thrive in your system and how to develop it.

Jacobi's long-term goal is for half of his herd to consist of first- and second-lactation cows and for the other half to be older cows. Right now, about 70% of the herd is first- and second-lactation animals. Making cows that last longer is not an overnight switch. But it will only become more important in the coming decades of improved efficiencies and greater consumer interest. Luckily, we have the tools on both the genetic and management sides to build herds of the types of cows everyone wants to milk — and buy milk from. 1000+

■ The author is an associate editor for *Hoard's Dairyman*.

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HOT TOPICS IN FORAGE RESEARCH

by Luiz Ferraretto

HIGH-QUALITY forages are vital for dairy farm productivity and sustainability. This was evident in many presentations at the annual meeting of the American Dairy Science Association (ADSA). The objective of this article is to describe and discuss some of the forage research; however, these are only a few of the many research trials presented and were hand-picked to represent different areas within forage research.

NEW FORAGE RESEARCH reveals opportunities to diversify and improve dairy cattle nutrition.

Producing high-quality small grain forages: Small grain forages continue to rise in popularity in many parts of the United States. These crops have garnered interest for multiple reasons. Many farmers plant small grains primarily as cover crops for improving soil health while reducing erosion and nutrient losses. Conveniently, this also presents the opportunity to produce extra forage. For others, growing small grains is a necessary strategy to stretch forage inventories. But like other forages, the stage of maturity at harvest influences the nutritive value of small grains.

A study conducted in three locations in Virginia assessed maturity at harvest of two barley, two rye, and four triticale varieties. Forages were either harvested at boot stage or at soft dough stage. Overall, concentrations of neutral detergent fiber (NDF), lignin, and starch were lower and ash and crude protein (CP) content was greater when forages were harvested earlier. This improvement in forage quality was at the expense of dry matter yields (Table 1).

Another study conducted by the same group evaluated the effects of feeding triticale silage harvested at boot stage or soft dough stage to dairy cows. The difference between maturities was less pronounced than the study described above. Crude protein was 1.2 percentage units higher, whereas NDF was 2 percentage units lower when triticale was harvested at boot stage. Under these conditions, feeding triticale silage harvested at boot stage improved milk yield by 2.4 pounds per day. However, fat-corrected milk yield and feed efficiency were similar between both treatments.

Defining the ideal harvest maturity of small grains is not an easy task and will be determined by the unique challenges and needs of each dairy farm. Planning ahead in brainstorming sessions between dairy farmers, nutritionists, agronomists, and crop consultants to achieve adequate forage quality and ensure sufficient forage inventory is advised.

Moisture concentration at ensiling is another key factor associated with forage quality, as it affects fermentation patterns and the ability of undesirable microorganisms to thrive in silage. Researchers from Delaware evaluated the efficacy of inoculating direct cut or wilted triticale silage with lactic acid producing bacteria. This type of inoculant speeds up the fermentation process, which reduces the chance of clostridial fermentation that is commonly observed in high-moisture forages. The direct cut triticale was about 74% moisture, whereas the wilted forage was ensiled at 66% moisture. Inoculating triticale silage boosted lactic acid concentration while reducing ammonia accumulation and preventing butyric acid production. Inoculation also curbed enterobacteria counts, but this response was faster on wilted silage than direct cut silage.

The most prevalent mycotoxins in corn silage: Continuing with the discussion about undesirable compounds in forages, mycotoxins could not be left out. Concerns about the presence of mycotoxins in silage intensify in years when environmental conditions during the forage growing season enable mold proliferation. The 2023 growing season is one example as some mycotoxins are more prevalent during hot, dry weather.

A survey presented at the ADSA meeting collected 947 corn silage samples worldwide between September 2022 and February 2023. For full disclosure, this survey was conducted by a private company that commercializes products for mycotoxin detoxification. North America, which included the United States and Canada, accounted for 218 out of 947 samples. The most prevalent mycotoxin in these samples was deoxynivalenol (DON), also known as vomitoxin, with 74% prevalence and an average concentration of 2.5 parts per million (ppm) among positive samples. The presence of 1.5 ppm to 2.5 ppm DON was previously associated with reduced feed consumption and milk production by dairy cows.

The second-most common mycotoxin found in corn silage was zearalenone, which had a 40% prevalence and an average concentration of 0.6 ppm in positive samples. Field observations associated zearalenone with lower milk production and reproductive issues as well as abortion in dairy cows. The maximum zearalenone concentration suggested for heifers and dairy cows is 10 ppm and 25 ppm, respectively.

Table 1. Yield and nutrient composition of barley, rye, and triticale forage varieties harvested at two different maturities[1,2]

Nutrients, % of DM	Boot	Soft dough	P-value
CP	12.3	6.6	0.01
aNDFom	50.5	60.7	0.01
Lignin	5.5	8.5	0.01
Starch	5.7	6.6	0.01
Ash	7.1	4.0	0.01
Yield, ton/acre	2.3	5.4	0.01

[1]Adapted from Galyon et al. (2023); J. Dairy Sci. 106 (Suppl 1):257.
[2]Boot stage defined as the head was within the sheath of the flag leaf. Soft dough stage defined as when no milky endosperm was evident when grains were pressed between fingers.

The implementation of proper harvesting and storage practices is advised to reduce mold proliferation and the risk of mycotoxin development, but keep in mind mycotoxins may occur even when good management practices are applied. Even though silage fermentation has been suggested to reduce the concentration of mycotoxins, recent research suggests this may not always be the case. The issues may even be exacerbated in storage over time.

If the presence of mycotoxins is a concern based on visual spoilage present in the silo, sending samples to a lab for analysis is key. Most importantly, if corn silage has mycotoxins, take action to detoxify the silage by adding a mycotoxin-binding agent to the diet or adopting feeding strategies that dilute the amount of mycotoxins fed with noncontaminated feeds. 1000+

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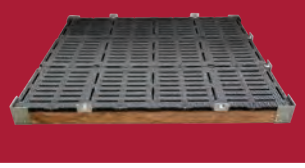

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MAKE EMPLOYEE MANAGEMENT YOUR COMPETITIVE ADVANTAGE

by Michele Ackerman

THE dairy farm is no different from any other business: Success hinges on a quality workforce. But we all know that the pool of qualified agricultural workers is shrinking, making it more important than ever to find — and retain — a good team of employees.

How do you become the standout farm employer of choice where top-notch employees want to work?

In an episode of "The Dairy Signal," hosted by the Professional Dairy Producers (PDPW), Tim Schaefer told listeners there is little that can differentiate a farm and give it a long-term competitive advantage, except management.

We all have access to the same equipment, the same suppliers, and go to the same conferences, remarked Schaefer, a certified family business advisor and professional business coach with Encore Consultants. It is the way you lead and the way you work with employees that will separate you from the rest. A strong work culture and cohesive team are difficult to replicate. But for dairies that excel at it, doors open.

No longer a choice

As your dairy grows, so does your need for employees. Even the most automated systems need employees to function and scale. As the team expands, so does the necessity to delegate and do it well.

Delegation is not telling people what to do, Schaefer explained. Delegation establishes working parameters and then gets tasks and responsibilities off your plate. Do you keep your eye on them? Absolutely. But you no longer must worry about them, so your time is freed up for other responsibilities.

Delegation can be difficult and uncomfortable. It starts by investing in employees and building a team you can trust. There are a lot of good employees ready to accept the mantle of accountability; they just need to be given a chance.

Be predictable and proactive

If you want good employees to stay, you need to be predictable, even during busy seasons. If you have employee meetings, schedule them on the same days, at the same times, and for the same durations.

Be a proactive communicator to keep everyone on the same page and pulling in the same direction. Clarify mission statements, visions, core values, and what is important to you, like culture and strategy. Get them out there, write them down, and share them. This exercise also characterizes your code of conduct, what you hold yourself to, and your standards.

Share visions and strategies with good employees. When they understand where you want to go, Schaefer said they will help you get there.

Clear, and preferably written, communication provides a road map for reaching future goals. It is like the photo on the box of a puzzle, which shows the final product when all the pieces fit together. The strategy does not need to be complicated, but should be based on factors in your control.

What is the most important thing we need to be doing in the next 30 days, 60 days, 90 days, and a year from now? How are we going to do it, and who will do it?

Provide structure

We often think people want to work on our farm because of the freedom it affords, but that is what we value. Employees crave structure and want to know that they are being held accountable.

Your best employees thrive on accountability. Give them full accountability in a structured environment. Let them figure out how to do the job within parameters and then turn them loose. The worst thing you can do is micromanage a good employee.

Pride in the team

We all love to be on a winning team and remember our favorite coaches. They made us feel special and put us in a spot where we could play to our strengths.

We need to keep that team mentality on our farms, Schaefer noted. A team is not just a collection of six, 26, or 266 people, but is deliberately built, cherished, and nurtured.

The team has an objective and a plan to win. What does winning look like on the dairy farm? Because data is so prevalent, there are many opportunities to determine if the farm is winning or making progress.

Winning coaches view each person as an individual, not a body. Great coaches say, "This is where you are today, and this is where I think you can be." They coach to strengths, putting people in positions where they can thrive. The don't just put a person in a slot to fill it. Not every employee can be a good milker, nor will everyone be good at feeding.

Make sure the employee team knows the game plan, not just for a single game, but the entire season. Schaefer advised showing them the bigger plan and how you intend to get from A to Z.

Hire people who fit

Schaefer recommended hiring people who your employees will enjoy working with. We all want to work alongside capable, competent people who want to be there.

One of the main reasons good employees leave is because there are people on the team who don't have the same standards or work ethic. To avoid this, look for compatibility, and don't just randomly throw people together and trust it will work.

When you are crystal clear about culture and core values and have time, use this as your first sort during hiring, and then look for skills. If they don't have the skills but fit the culture, you can pair them with an onboarding coach and then mentor and train them for the job. This person may be a better fit than someone who is super talented with a great résumé but doesn't mesh with the current team.

While it is challenging to go beyond first impressions, behavioral interviewing can help sort candidates. Core values are hard to fudge. Ask candidates about past work experiences, what intrigued them, what inspired them, and what motivated them to determine if their values align with yours and the rest of the team.

Labor challenges always have and always will exist. However, they need not be your Achilles heel, summed Schaefer. If you are strategic, you can reduce labor issues so you can focus on bigger and more important things. 1000+

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