

The meaning of animal well-being for farmers and dairy farm employees

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Dairy farms in Sweden have undergone a structural change. The number of family farms has decreased, while the number of large dairy farms with employees caring for the animals has increased. This changing situation has created a new farming landscape. From that perspective, it is crucial to gain insight into what factors contribute to the well-being of humans and animals on big dairy farms. Twenty-three semi-structured interviews were conducted on three farms. Farmers and employees were interviewed. The material was analysed using a qualitative approach inspired by qualitative content analysis. For the farmers and employees, animal well-being was central for various reasons and from different perspectives. Despite the differences, the impact of animal well-being was interlinked between the two groups. An increased and deeper understanding of the different perspectives and needs arising from the different roles of farmers and employees can provide new knowledge about factors important for improving animal well-being.

Key words: big dairy farms, job satisfaction, animal health, milk production, animal welfare

Introduction

In the Swedish food strategy (Prop. 2016/17:104), milk production is described as one of Sweden's most important agricultural production branches. It is an engine for other production in the agricultural sector. The food strategy's vision for Swedish agriculture is that, by 2030, production resources will be used efficiently and sustainably (socially, environmentally, and economically). The development of dairy farms in the industrialised parts of the world is increasingly moving towards the herds of large number of animals with higher levels of milk production. This development means that family farms are decreasing and are being replaced by milk-producing farms with employed staff (Barkema et al. 2015). Dairy farms in Sweden have undergone the exact structural change as in the rest of the industrialised world over the past three decades. The same trend can be seen in the neighbouring countries of Finland and Denmark (Luke 2022, Statistics Denmark 2022). The number of milk-producing farms in Sweden has decreased by half each decade while milk-producing herds have become larger. According to statistics from the Swedish Board of Agriculture (2021), the average number of cows in a herd in 1987 was 19; in 2021, it was 102. During the same period, the average milk production per cow and year increased from 6849 kg ECM to 10 521 kg ECM (VÄXA 2022).

The farmer's duties and role on the farm have been altered due to the transition from family farms to farms with employed staff who manage the herd animals daily. New questions have arisen concerning how the development of bigger farms places greater demands on strategies focused on financial control, leadership, and personnel issues (Hagevoort et al. 2013). Cofre-Bravo et al. (2019) argue that farmers must be active in creating better working conditions, taking into account the experience of their employees and encouraging their learning. This can increase employee engagement and thereby contribute to more innovative behaviour. Furthermore, innovation demands new knowledge and practical skills for farmers and employees based on their different roles (Cofre-Bravo et al. 2019). Employees who know the farmer's goals and can perform their work properly are more engaged. This, combined with increased knowledge among the employees with the help of extension, can contribute to higher production (Erskine et al. 2015). The importance of employees in milk production has not been sufficiently emphasised. However, there is much evidence that increased knowledge and development opportunities can contribute to improved animal welfare and increased production (Losada-Espinoza et al. 2020). The concept of animal welfare is defined by the Council of Europe's Convention for the Protection of Animals kept for Farming Purpose as the following five freedoms: freedom from hunger and thirst, freedom from discomfort, freedom from pain,

injury, and disease, freedom to express normal behaviour, freedom from fear and distress (Publications Office of the European Union). However, this is not the only way to define animal welfare. According to Fraser (2008), people have different criteria based on different values when explaining the meaning of animal welfare. Farmers and employees explain the concept of animal well-being used in this article as primarily healthy, milk-producing animals and, for some employees, happy animals.

It is well known that humans can affect animals and their well-being in several ways, such as employees' attitudes, behaviour, and handling (Rault et al. 2020, Hemsworth and Coleman 2011). Therefore, employees are of great importance to the viability of a dairy farm (Durst et al. 2018). Hannah and Robertson (2017) highlight the relationship between humans and animals in the workplace as an important factor to consider in this context. This relationship can be seen from different perspectives and is affected by various factors, such as attitudes among workers, cultures and the nature of work (Hannah and Robertson 2017). The human-animal relationship can also be seen from other perspectives in today's dairy production. Porcher and Estebanez (2019) state that it is crucial to understand animals' impact on us because they act as co-workers while contributing economically as food supply resources.

It is, therefore, essential to gain insight into animal-human relations from the different perspectives of farmers and employees, focusing on the changing processes to increase animal well-being in combination with higher milk production. This study aims to provide insight into the importance of animal-human relations from the perspective of the farmer and the employees based on their respective roles. More specifically, this study explores how animal well-being affects farmers and employees; it strives to understand the factors necessary for creating conditions for animal well-being from a management perspective associated with communication and change processes.

Material and methods

Qualitative research

The study was conducted in the form of a qualitative study on farms. According to Yin (2013), a qualitative study is characterised by providing people's opinions and points of view on different issues and contexts, which was the goal of this study. The methods used were semi-structured interviews, observations, and qualitative data analysis. Yin (2013) claims that the qualitative interview contributes knowledge about the social and complex world in which the interviewee finds themselves, which is also one of the goals of qualitative research. A qualitative interview creates data through words expressed by the interviewee. The interview mediates unbiasedly what experiences and actions reported by the interviewee are important (Kvale and Brinkman 2014). The qualitative interview was considered an appropriate data collection method because it is an open approach that provides broad knowledge and a deeper understanding.

Sampling

The choice of farms was based on a conscious selection process and thus belongs to what is referred to as deliberate in qualitative research. The selection criteria were that they should be milk-producing farms with employed staff carrying out milking, feeding, and caring for animals; they were also required to use some form of animal health extension. The farms were located in Sweden within a geographically limited area, allowing repeated physical visits for data-collecting interviews and observations. The selection of participants in the study was made through a deliberate choice of the farms, which was delimited by their size and geographical location and could thus constitute a limitation on the study's validity. The number of dairy cows on each farm varied somewhat. Farm A had 550 dairy cows, farm B had 770 dairy cows, and farm C had 800 dairy cows. In addition, the number of employees varied from five on farm A to 10 on farms B and C, respectively. All farmers were involved in the practical work on the farms, but to a different extent with the animals, depending on their different responsibilities. Yin (2013) points to the importance of selecting interviewees from a broad perspective to avoid one-sided bias. In the present study, all employees with animal care tasks were asked to participate, creating a breadth and variety in the sampling due to their varying age, gender, education levels and prior working experience.

The farmers were initially contacted by phone, informed orally about the project, and asked about their interest in participating in the study. Information meetings were held for farmers and staff at the farms. At the meetings, information about the study's background, purpose, and implementation was given orally and in writing. In connection with the information meetings, a consent form was distributed to those interested in participating in the study.

Before the planned data collection, a pilot study was carried out in the form of a test interview and the transcription of the interview material. After this, some questions were reformulated and clarified.

Data collection

The data collection took place during spring 2022 in individual qualitative interviews and observations. According to Merriam (1994), participatory observation is an important method for gathering information that, together with interviews, can contribute to a holistic view of the studied phenomenon or situation. Observations were carried out in connection with the advisors conducting advisory visits to the farm. The advisory visits included a joint meeting with the advisor, employees, and farm owners. The observation mainly consisted of notes about communication methods, paths, the issues raised, and how the participants addressed them.

Before the data collection, two interview guides were created. The interview guides were adapted to the roles and tasks of the two interview groups, farmers and employees. Each guide consisted of two parts concerning extension (knowledge, experiences, and expectations) and motivation for work and change processes. Six farm owners and 17 employees were interviewed. The number of employees interviewed was evenly distributed across the three farms (five employees at farm A and six at farms B and C, respectively). Four of the interviews were conducted with the help of a Polish-speaking interpreter due to language difficulties. The interviews were conducted individually. According to Kvale and Brinkman (2014), the interview process is not neutral but is influenced by context. Therefore, the interviews were performed under conditions as similar as possible for each farm. The interviews of the employees and farmers were carried out individually in the staff room of each farm. Other staff were informed that interviews were taking place to avoid unnecessary distractions during the interview. Each interview lasted 30–90 minutes. All interviews were recorded, but one was due to the interviewee's reluctance to be recorded. After the interviews, the interview material was anonymised, with each interview given an individual code, and transcribed into separate Word documents. According to the Swedish Research Council (2017), confidentiality was met as all answers were treated confidentially, and personal data processing occurred following GDPR legislation. Audio files and notes were de-identified and anonymised, taking into account unique names, farm names, and places, with the result that individual answers, individuals, and farms could not be identified.

Data analysis

Inspired by the qualitative content analysis method, the interview material was interpreted and categorised. The analysis was based on Graneheim and Lundman's (2003) description of qualitative content analysis. Qualitative content analysis provides an opportunity to describe similarities and variations based on text patterns. These differences and similarities, manifest or latent, underlie the creation of categories and themes, the manifest forms the basis of categories, and the latent forms the more abstract themes. In the process of creating categories, interpretation is required. However, at different levels of abstraction, the content context is essential regardless of the depth of interpretation or the level of abstraction. Lundman and Hällgren Graneheim (2012) further point out that an overly textual and manifest text analysis entails a risk of a reduced holistic view, but a higher degree of interpretation and abstraction level leads to increased demands on reliability.

The text material was read through several times to form a deeper understanding of the material. Based on the interview material, four domains were created (change, collaboration, motivation at work, and current extension). Meaning-bearing units were selected from each domain. Graneheim and Lundman (2003) describe a meaning-bearing unit as a coherent piece of text that provides a basis for further analysis. The next step in the qualitative analysis was condensing the meaning-bearing units for each domain to concentrate the meaning of the more extended mass of text into its most essential factors. This was followed by creating categories from the meaning-bearing units for each domain. Originating from all categories, an overall theme and three subthemes emerged. The analysis was conducted with accuracy following a transparent approach with recurring discussions among the co-authors regarding the analysis. Seeking collaboration and discussion can contribute to the increased reliability of a study's results (Lundman and Hällgren Graneheim 2012).

Ethical aspects

Data collection was preceded by an ethical review application, which was approved (No. 2021–05686-01) per the Act on the ethical review of research involving humans (SFS 2003:460). All participants received written and oral information, and written consent was obtained from all.

Results

The analysis of the interview material showed an overall theme, animal well-being, and three subthemes: job satisfaction, communication, and change. Animal well-being was important for employees and farmers in various aspects. The following sections present three aspects of how animal well-being was viewed as significant for employees and farmers and its importance to changing processes in dairy farms.

The importance of animal well-being for job satisfaction and work in peace

Animal well-being was a central and important factor for employed staff and farmers on several levels. The different aspects of animal well-being were linked to the various roles of the two groups in the dairy business: employees and farmers. The well-being of animals affects job satisfaction, joy in work, work in peace (in Swedish: arbetsro), production, and the economy. As one employee expressed it:

If the animals don't feel well, you don't feel well yourself.

The factors had different importance by employees and farmers but were interrelated and often influenced by each other (Fig.1).

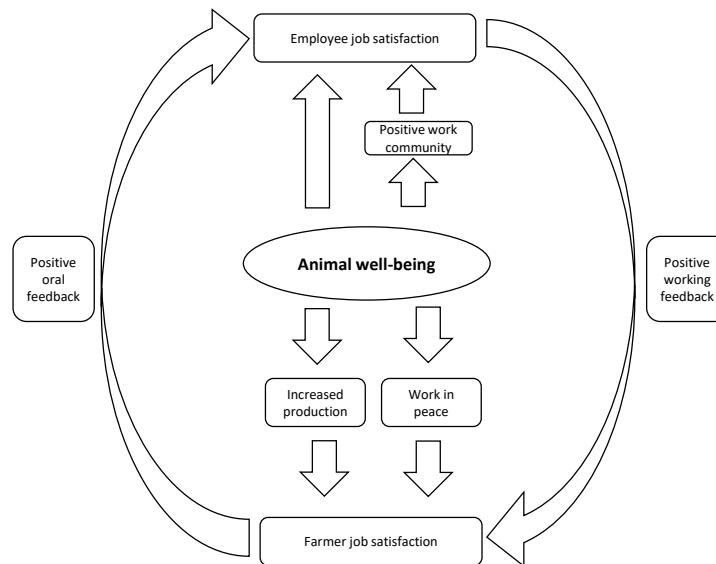


Fig. 1. The well-being of the animals is central and contributes to the job satisfaction of both employees and farmers, but in different ways.

For the employees, the well-being of the animals was central and an essential prerequisite for job satisfaction, as the following quote illustrates:

When all calves are healthy, eating, and happy, when everything runs smoothly and everything is in place, you've done a good job, which is a great feeling.

The background to this central position was found partly in the relationship between animals and humans, created through the daily proximity to the animals. The animals and their well-being were essential for the employees' opportunities to feel personal satisfaction from having done a good job of contributing to animal well-being. Employees valued the silent feedback they received from the animals.

In addition, the feeling of job satisfaction was created by the fact that the employees' working situation was characterised by working in peace based on their physical, communicative, and relational conditions. This is illustrated by the following words from an employee:

The animals must have a good life, and you must be able to manage as many tasks as possible with good quality. Your colleagues should have a good time, and you should be part of a good team. Everyone should talk to everyone. There should be a good atmosphere.

Factors such as time, co-workers, knowledge of the work task, and equipment being adapted, and functioning were important. This enabled the employee to perform duties satisfactorily and thereby feel job satisfaction. The employees' experience of job satisfaction was also positively affected by appreciative feedback from the farmers on the work effort. As one of the employees described:

You want to have some feedback, not only compliments. How we are doing, how we work, whether it is good or bad. Like key figures, what's good or what's not so good.

It was a reinforced confirmation that the work was satisfactorily performed. Job satisfaction and joy in work among the employees were strongly linked to the individual work situation and tasks, with the well-being of the animals forming a vital part of this.

According to the farmers, they experienced job satisfaction in situations that enabled them to work in peace:

It is great when organisation and cooperation work but also when we break milking records and reap what we have sown. When things run smoothly without interfering, that's an absolute satisfaction.

Work in peace, as seen from the farmers' point of view, was partly individual but was also dependent on the employees and their opportunities to feel job satisfaction. Since the well-being of the animals is central to the employees' job satisfaction, animal health will also indirectly affect the farmers' job satisfaction, and non-functioning staff groups or staff who cannot perform expected tasks will negatively impact the business. The importance of animal and human well-being is stated by one of the farmers:

I like it when animals are well and when people feel well. It is an achievement, a sign that you have been successful.

Work in peace for the individual farmer was affected by the farm's activity as a whole and its constituent parts, such as personnel, animals, equipment, and machines. This contrasts the employees, whose job satisfaction was only directly related to the animals' well-being and work tasks. Having healthy animals is a prerequisite for high milk production. It contributes to a financially positive result, essential for the farmers as business owners. It also creates opportunities for the development of the company. Change and development were desirable, focusing on better animal health, working conditions, and economic results. However, the well-being of the animals was important to the farmers not only from a production point of view but also from a staff point of view. Improving animal well-being may help enhance production and affect the staff's job satisfaction and joy in work and, by extension, the farmer's work in peace.

The importance of communication and cooperation for animal well-being

Cooperation is needed to create good working conditions for the well-being of animals. One farmer said:

We talk and try to pull in the same direction. People think and feel differently - but I want good communication; that's what I want. I am not a person who gives orders. I talk and want us all to agree.

Communication and collaboration are cornerstones in any effort to effect change. These are necessary to create new knowledge and clarity within a change process and improve the possibility of supporting participation in the joint work. The collaboration took place under different conditions based on the different roles of farmers or employees. This meant that the expectations for each actor in the collaboration differed to some extent. Regardless of the role, a functioning collaboration required communication, characterised by clarity, a lack of prestige, and respect for others and their knowledge, which both employees and farmers emphasised. One farmer pointed out the importance of clarity in the communication:

It is important to keep a straight dialogue and to understand each other. I want to convey what I want from the employee, and we need to understand each other to get the most out of each other.

In this context, communication could come in many different forms, such as information needed to reach all employees simultaneously, simple everyday communication or conversations in dialogue. Communication contributes not only to the transfer of information but also to enhanced job satisfaction through positive feedback. To enable communication, actors need to have access to each other during a working day in time and space and understand each other's situation. One employee said:

I usually say you don't have to love the person you work with, but you must respect and be able to work with and enjoy it (your colleagues). It is important that you cooperate. Otherwise, it won't work.

A well-functioning collaboration between the employees was crucial for well-being in the workplace. However, it also contributed to job satisfaction by having colleagues act as sources of knowledge for each other, ensuring employees could perform their tasks. The communication contributed information about how work tasks were to be performed, allowing tasks to be done successfully. Furthermore, collaboration formed the basis for a sense of belonging in that the employees were available to each other in different work situations and worked together towards the same goal, where the focus was on the well-being of the animals. One employee explained the collaboration at the workplace:

Everyone tries to make things work, even with those they don't click. No one makes it more difficult for someone else. Instead, everyone does what they can to manage their work and to help each other. That is why I enjoy it here; we pull together because we want the animals to be well.

The importance of animal well-being in change processes

Change in this context is referred to what farmers and employees put forward. It can involve investing in new techniques, better buildings, etc. The aim of the change is, in most cases, to develop the environment for animals and humans, leading to increased milk production and a better economy. The driving forces for change were found to be the farmers who, in the vast majority of cases, were the ones who initiated the change work:

It could be different things. It could be animal health, where we try to get even better animal health to get even more milk. That's the driving force behind everything: we get as much milk as possible to pay wages and make investments. That is the basis. In a way, I also want to earn some money to have a reasonably everyday life. You put so much of yourself and so many hours into it that you want to be able to get something back at some point, maybe.

The reasons for a desire to implement change were numerous and often based on the individual farmer's situation. Economics was, however, an important factor from several different aspects. Positive economic development created the conditions for the farmer to develop the company and implement the changes and improvements required for improved milk production. At the same time, it made the conditions for the farmer to live a "normal" family life, with the opportunity to actively participate in family leisure activities and have family holidays. The farmers had the power to decide to start and implement a change process, and the employees had limited ability to influence the process. The desire for change and development with a financial incentive often affected milk production, which involved the animals, affecting the staff who participated in the change process in their work with the animals. One farmer describes the link between the causes of change:

The driving force behind major changes is usually our belief that it will be better for the animals, that they will be healthier, and that they will produce more. It is usually something like that. Things that make work easier are better for the animals and result in less transport of animals. It automatically becomes better for everyone.

The farmers expressed a desire to implement change, while the role of the employed staff was to participate in the change. Various factors influenced the staff's willingness to participate in change. If the perceived outcomes are improved animal health, financial performance, and better working conditions, it leads to a greater willingness to change.

A fundamentally important part of a change process is the communication of information and dialogue between employees and farmers. How the information was shared was important regarding time and who shared the information. For the employees, it was desirable that they all received the same information at the same time, with explanations and motives for the change:

Let's take the example of investing in milking robots. You hear through the grapevine that new robots are being bought. You do not hear it from the farmer. Instead, it's a rumour that might come from an outsider. It would be better to have a meeting about it. You want to be informed about such significant investments. It would motivate you to keep going because you are the one that makes it pay off.

It was also important that there was opportunity and time given for self-reflection and the chance to ask questions. Individual variations among employees affected attitudes towards change in general. The farmers may need to remember this to create a sense of participation and the best possible conditions for implementing changes regarding the amount of information, frequency, and time for self-reflection and questions.

The dialogue between the farmers and the employees was meaningful and contributed to a sense of participation. One of the employees expressed:

The managers should also be responsive and take good care of their employees. They should listen to the employees, and the employees should be allowed to have their own ideas and develop them.

The dialogue allowed the employees to receive the information they needed about the change and allowed space for them to influence and contribute knowledge to the change work. Listening offers a feeling of importance for the business and contributes to a sense of participation. The employees were aware that practical circumstances when working with animals sometimes limit opportunities to influence the process. In situations where the opportunities for influence are more significant, and there is room to control one's work situation regarding how the work task is performed, an opportunity for self-determination and personal responsibility is created, promoting the feeling of participation.

Discussion

Animal well-being is of central importance to employees and farmers in several ways. An essential aspect of animal well-being is the peace at work for both the farmer and the employees. As with other occupations, working in peace is an important aspect that various factors can influence (Sak-Dankosky et al. 2017). In our case, the animals and their well-being influence and contribute to work in peace in the workplace. In the following discussion, animal well-being and its importance will be viewed from a holistic perspective within dairy farms with employed staff, focusing on the perspectives of the employees and the farmer but not on individual animal well-being as a phenomenon.

More and more farms employ staff to perform daily tasks, and farmers often experience problems finding and retaining a competent workforce (Nye 2018). This fact raises the question of whether there is a need for a deeper understanding of the factors that influence the employees' job satisfaction and contribute to working in peace for the farmer. Nettle (2012) argues that there is a need to pay attention to the workings of an organisation from a human and social perspective. Several factors, such as leadership and feedback, influence the work environment and contribute to creating good workplaces (Kolstrup et al. 2008). Animal well-being is essential for creating a feeling of job satisfaction among employees and farmers. The two groups' perceptions of job satisfaction were influenced by several factors, some of which differed between the two groups but appeared to be interrelated. For the employees, the well-being of the animals was central and an essential prerequisite for job satisfaction. The background to this prominent position was found partly in the relationship between animals and humans. This was created in the daily proximity to the animals and the fact that the animals and their well-being were essential to the employees' ability to feel work satisfaction. The experience of doing a good job contributed to the animals' well-being. Yam et al. (2022) suggest that when working with animals, employees may experience compassion and reverence for the animals' different abilities, which may lead to a more pro-social relationship with co-workers and better job performance. This compassion and sense of awe are based on the employee's awareness that animals can feel and sense, which could be the basis for the central role that animal well-being has for the employee. Furthermore, the pro-social relationship with colleagues, bolstered by a shared sense of compassion and reverence for the animals, can be linked to the job satisfaction created individually, in interaction with other people in the workplace, and the relationships with the animals in the herd. There is also ongoing research on how humans affect our domesticated animals and can interact with animals to increase their well-being (Rault et al. 2020, Hemsworth and Coleman 2011). Broadening the knowledge related to animal-human interactions from the perspective of the importance of animals in the work environment and developing knowledge in the workplace can be valuable and provide a deeper understanding of work in large dairy herds.

The employee's job satisfaction and work in peace were strongly linked to individual work environments and tasks where the role and well-being of the animals were vital. Hemsworth and Coleman (2011) describe how knowledge of the animals regarding their needs and behaviour provides a basis for creating conditions for their well-being and thus achieving satisfaction and contentment in the work task. Increased knowledge of how to care for the animals helps the employee better meet the animals' needs. It can thus contribute to healthier animals that, in turn, will contribute, through their well-being, to job satisfaction (Hemsworth and Coleman 2011). Farmers need to be aware that training and knowledge acquisition opportunities for employees not only create an increase in skills but also indirectly contribute to increased job satisfaction. Nye (2021) found that two critical factors for employees were the ability to perform interesting tasks and having a sense of their development. The absence of these factors and the lack of other factors like fair treatment and career progression could disincentive farm work (Nye 2021). In the longer term, employees' increased knowledge and subsequent job satisfaction can also create job satisfaction and peace at work for the farmer. This is because increased employee job satisfaction contributes to the functioning of the employee group and, thus, to the farmer's sense of peace at work. According to Nettle (2018), employees having increased skills and knowledge appropriate to the farm in question, positively affecting the farmers' job satisfaction through increased commitment and autonomy. This is a reason for developing training and human resources.

Another factor contributing to job satisfaction among employees is the presence of functioning relationships and communication between colleagues and farmers. Employees' perceptions of job satisfaction were also positively affected by appreciative feedback on work performance from the farmers. According to Durst et al. (2018), feedback on the completion of tasks is important for employees and strengthens work performance. Menger et al. (2016) found that good communication is a prerequisite for high production and safety in the workplace. Furthermore, Durst et al. (2018) bring forward the importance of different forms of communication, with feedback, learning situations, and communication regarding goals being areas for improvement on large dairy farms.

Animal well-being positively affects farmers' well-being, along with family interaction, positive economic results, and an acceptable workload (Kallioniemi et al. 2018, Hansen and Österås 2019). For the farmers, animal well-being and higher milk production are highly intertwined. Onyiro et al. (2008) and Hernandez et al. (2005) show that healthy cows produce more milk than those suffering from diseases. High milk production can contribute to positive economic development for the company and thus enable desired investments. In contrast, decreased production and increased veterinary fees, medicine, and labour costs due to the additional work needed to treat sick animals may reduce investment opportunities. This has a knock-on effect on the animals and the working situation of the employees. Improving animal well-being can result in better production performance and positively impact employee job satisfaction, positively influencing the farmer's work in peace and increasing job satisfaction.

Creating the conditions for animal well-being requires cooperation and, in some cases, change. Communication and cooperation are the cornerstones of the change process. Without these elements, creating knowledge and clarity in a change process and providing opportunities for worker influence and participation in joint work is challenging (Angelöw 2010). Communication is essential in change management and the daily work of creating conditions for healthy animals. Properly functioning cooperation among staff and between employees and farmers is important for the well-being of everyone in the workplace (Biggio and Cortese 2013). A working environment characterised by openness and consideration promotes employee communication, although practical conditions are also required for effective communication. Language difficulties and a lack of expected meeting times might be aggravating factors. Communication between employees and the farmer is essential for several reasons. It provides information and helps to clarify the objectives of the business. If goals are unclear for the employee and the farmer does not make time to listen to the employee's opinions, there is a sense of diminished participation and importance on the part of the employee (Moore et al. 2020). Employees' perception of being listened to contributes strongly to their sense of involvement. Consequently, as the opportunities to influence the work environment vary with different tasks, the opportunities to experience the feeling of being listened to also differ. The opportunity and room to influence how one performs day-to-day tasks significantly affect a sense of participation. Allowing self-determination and personal responsibility promotes a feeling of involvement. Nettle et al. (2011) found that employee engagement increased when employees were given opportunities to learn and develop new skills and knowledge. The fact that the employee can see a change process can lead to something positive for the well-being of the animals, with the company's finances being a further factor in creating favourable conditions for change work. Further research is required to gain a broader and deeper understanding of workplace learning in the actual context.

Conclusion

Animal well-being and its importance to milk-producing farms cannot only be seen from a strict production perspective. Understanding the importance of animal well-being to employee job satisfaction and the farmers' work in peace can contribute to a well-functioning organisation that is successfully changing towards improved animal well-being and production. This also means highlighting factors contributing to farmers' and employees' feelings of work in peace, respectively, since the groups differ to some extent. Broadening the field of knowledge related to animal-human interactions from the perspective of the importance of animals in the work situation and developing learning and communication in the workplace can be valuable and provide a deeper understanding. Insights into the importance of animal well-being for the employees and the farmer is knowledge that can shed new light on the learning situation on dairy farms with employed staff. Further research is required to gain a broader and a deeper understanding of implementing the results in workplace learning and change processes.

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References

- Angelöw, B. 2010. Framgångsrikt förändringsarbete - om individ och organisation i förändring. Natur & Kultur. 207 p. (in Swedish)
- Barkema, H.W., Von Keyserlingk, M.A.G., Kastelic, J.P., Lam, T.J.G.M., Luby, C., Roy, J.-P., Leblanc, S.J., Keefe, G.P. & Kelton, D.F. 2015. Invited review: Changes in the dairy industry affecting dairy cattle health and welfare. *Journal of Dairy Science* 98: 7426–7445. <https://doi.org/10.3168/jds.2015-9377>
- Biggio, G. & Cortese, C. 2013. Well-being in the workplace through interaction between individual characteristics and organisational context. *International Journal of Qualitative Studies on Health and Well-being* 8: 1. <https://doi.org/10.3402/qhw.v8i0.19823>
- Cofre-Bravo, G., Engler, A., Klerkx, L., Leiva-Bianchi, M., Adasme-Berrios, C. & Caseres, C. 2019. Considering the farm workforce as part of farmers' innovative behaviour: a key factor in inclusive on-farm processes of technology and practice adoption. *Experimental Agriculture* 55: 723–737. <https://doi.org/10.1017/S0014479718000315>
- Durst, P.T., Moore, S.J., Ritter, C. & Barkema, H.W. 2018. Evaluation by employees of employee management on large US dairy farms. *Journal of Dairy Science* 101: 7450–7462. <https://doi.org/10.3168/jds.2018-14592>
- Erskine, R.J., Martinez, R.O. & Contreras, G.A. 2015. Cultural lag: A new challenge for mastitis control on dairy farms in the United States. *Journal of Dairy Science* 98: 8240–8244. <https://doi.org/10.3168/jds.2015-9386>
- Fraser, D. 2008. Understanding animal welfare. *Acta Veterinaria Scandinavica* 50: S1. Understanding Animal Welfare (wellbeingintl-studiesrepository.org). <https://doi.org/10.1186/1751-0147-50-S1-S1>
- Government bill 2016 /17:104. A national food strategy for Sweden - more jobs and sustainable growth throughout the country. <https://www.regeringen.se/contentassets/256cc25ab5a84db7a76730abb9cc3773/en-livsmedelstrategi-for-sverige-fler-jobb-och-hallbar-tillvaxt-i-hela-landet-prop-2016-17-104.pdf>
- Graneheim, U.H. & Lundman, B. 2003. Qualitative content analysis in nursing research: concepts, procedures and measures to achieve trustworthiness. *Nurse Education Today* 24: 105–112. <https://doi.org/10.1016/j.nedt.2003.10.001>
- Hagevoort, G.R., Douphrate, D.I. & Reynolds, S.J. 2013. Review of Health and Safety Leadership and Managerial Practices on Modern Dairy Farms. *Journal of Agromedicine* 18: 265–273. <https://doi.org/10.1080/1059924X.2013.796905>
- Hannah, D.R. & Robertson, K. 2017. Human-Animal Work: A Massive, Understudied Domain of Human Activity. *Journal of management inquiry* 26: 116–118. <https://doi.org/10.1177/1056492616655076>
- Hansen, B.G. & Østerås, O. 2019. Farmer welfare and animal welfare- Exploring the relationship between farmer's occupational well-being and stress, farm expansion and animal welfare. *Preventive Veterinary Medicine* 170: 104741. <https://doi.org/10.1016/j.prevetmed.2019.104741>
- Hemsworth, P.H. & Coleman, G.J. 2011. Human-livestock interactions: The stockperson and the productivity and welfare of intensively farmed animals. Second edition, CABI, Wallingford UK. <https://doi.org/10.1079/9781845936730.0000>
- Hernandez, J., Garbarino, E., Shearer, J., Risco, C. & Thatcher, W. 2005. Comparison of milk yield in dairy cows with different degrees of lameness. *Journal of the American Veterinary Medical Association* 227: 1292–1296. <https://doi.org/10.2460/javma.2005.227.1292>
- Kallioniemi, M.K., Kaseva, J., Lunner Kolstrup, C., Simola, A. & Kymäläinen, H.-R. 2018. Job Resources and Work Engagement among Finnish Dairy Farmers. *Journal of Agromedicine* 23: 249–261. <https://doi.org/10.1080/1059924X.2018.1470047>
- Kolstrup, C., Lundqvist, P. & Pinzke, S. 2008. Psychosocial work environment among employed Swedish dairy and pig farm workers. *Journal of Agromedicine* 13: 23–36. <https://doi.org/10.1080/10599240801986157>
- Kvale, S. & Brinkmann, S. 2014. Den kvalitativa forskningsintervjun. Studentlitteratur AB, Lund. 412 p. (in Swedish)

- Losada-Espinosa, N., Miranda-De la Lama, G.C. & Estévez-Moreno, L.X. 2020. Stockpeople and Animal Welfare: Compatibilities, Contradictions, and Unresolved Ethical Dilemmas. *Journal of Agricultural & Environmental Ethics* 33: 71–92. <https://doi.org/10.1007/s10806-019-09813-z>
- Luke 2022. Number of dairy cows by Year, Region, Variable and Herd size Number of dairy cows by Year, Region, Variable and Herd size. https://statdb.luke.fi/PxWeb/pxweb/en/LUKE/LUKE__02%20Maatalous__04%20Tuotanto__12%20Kotielainten%20lukumaara/03_Lypsylehmien_lukumaara_karjakokoluokka_mk.px/table/tableViewLayout2/?loadedQueryId=39575103-ff8e-468f-ab81-4a67d7e476f9&timeType=top&timeValue=1
- Lundman, B. & Hällgren Graneheim, U. 2012. Kvalitativ innehållsanalys. M. Granskär, B. Höglund-Nielsen (Red.), Tillämpad kvalitativ forskning inom hälso- och sjukvård. p. 219–234. Studentlitteratur (in Swedish).
- Menger, L.M., Pezzutti, F., Tellechea, T., Stallones, L., Rosecrance, J. & Roman-Muniz, I.N. 2016. Perceptions of Health and Safety among Immigrant Latino/a Dairy Workers in the U.S. *Frontiers in Public Health* 4: 106–106. <https://doi.org/10.3389/fpubh.2016.00106>
- Merriam, S.B. 1994. Fallstudien som forskningsmetod. Studentlitteratur AB, Lund. 228 p. (in Swedish)
- Moore, S.J., Durst, P.T., Ritter, C., Nobrega, D. & Barkema, H.W. 2020. Effects of employer management on employee recruitment, satisfaction, engagement and retention on large US dairy farms. *Journal of Dairy Science* 103: 8482–8493. <https://doi.org/10.3168/jds.2019-18025>
- Nettle, R. 2012. Farmers growing farmers: the role of employment practices in reproducing dairy farming in Australia. In: 10th IFSA symposium. Aarhus, Denmark. Farmers growing farmers: the role of employment practices in reproducing dairy farming in Australia. (cabdirect.org). 11 p.
- Nettle, R. 2018. Attractive careers and people management on dairy farms: two sides of the same coin In: International agricultural workforce conference. Cork, Ireland, pp 76-81. https://science.unimelb.edu.au/__data/assets/pdf_file/0008/2886848/final_A5-book_-_Labour-conference.pdf
- Nettle, R., Semmelroth, A., Ullah, A., Zheng, C. & Ford, R. 2011. Retention of people in dairy farming - what is working and why? Final report to the Geoffrey Gardiner Foundation. The University of Melbourne. Australia. Retention of people in dairyfarming - what is working and why? (thepeopleindairy.org.au). 8 p.
- Nye, C. 2018. The “blind spot” of agricultural research: Labour flexibility, composition and worker availability in the South West of England. *Agricultures (Montrouge)* 27: 35002. <https://doi.org/10.1051/cagri/2018018>
- Nye, C. 2021. The farm worker and the “drift to the land”. Roots, routes, opportunities and constraints to career pathways in farming. *Journal of Rural Studies* 83: 201–214. <https://doi.org/10.1016/j.jrurstud.2020.11.004>
- Onyiro, O.M., Offer, J. & Brotherstone, S. 2008. Risk factors and milk yield losses associated with lameness in Holstein-Friesian dairy cattle. *Animal* 2: 1230–1237. <https://doi.org/10.1017/S1751731108002279>
- Porcher, J. & Estebanez, J. 2019. Animal labor: a new perspective on human-animal relations. Bielefeld: Transcript. <https://doi.org/10.1515/9783839443644>
- Prop. 2016/17:104. En livsmedelsstrategi för Sverige - fler jobb och hållbar tillväxt i hela landet (in Swedish). <https://www.regeringen.se/rattsliga-dokument/proposition/2017/01/prop.-201617104/>
- Publications Office of the European Union 2021. EUR-Lex - animal_welfare - EN - EUR-Lex (europa.eu)
- Rault, J.-L., Waiblinger, S., Boivin, X. & Hemsworth, P. 2020. The Power of a Positive Human-Animal Relationship for Animal Welfare. *Frontiers in Veterinary Science* 7: 590867–590867. <https://doi.org/10.3389/fvets.2020.590867>
- Sak-Dankosky, N., Andruszkiewicz, P., Sherwood, P.R. & Kvist, T. 2017. Health care professionals’ concerns regarding in-hospital family-witnessed cardiopulmonary resuscitation implementation into clinical practice: Family-witnessed resuscitation. *Nursing in critical care* 23: 134–140. <https://doi.org/10.1111/nicc.12294>
- SFS 2003:460. Lag om etikprövning av forskning som avser människor. (in Swedish). https://www.riksdagen.se/sv/dokument-lagar/dokument/svensk-forfattningssamling/lag-2003460-om-etikprovning-av-forskning-som_sfs-2003-460
- Statistics Denmark 2022. Farms with livestock by size of herd, unit and time. Statistikbanken. www.dst.dk/en/Statistik/emner/ehrvhrliv/landbrug-gartneri-og-skovbrug/landbrug-med-dyr
- Swedish Board of Agriculture 2021. Nötkreaturssektorns uppbyggnad Ena analys av struktur och slakt i nötkreaturssektorn Nötkreaturssektorns uppbyggnad - En analys av struktur och slakt i nötkreaturssektorn - Jordbruksverket.se. (in Swedish). <https://jordbruksverket.se/om-jordbruksverket/jordbruksverkets-officiella-statistik/jordbruksverkets-statistikrapporter/statistik/2022-02-01-notkreaturssektorns-uppbyggnad--en-analys-av-struktur-och-slakt-i-notkreaturssektorn>
- Swedish Research Council 2017. Good Research Practice. https://www.vr.se/download/18.5639980c162791bbfe697882/1555334908942/Good-Research-Practice_VR_2017.pdf
- VÄXA Sweden 2022. Cattle statistics 2022. <https://vxa.qbank.se/mb/?h=c7a1d64e698d8df91094699ba3ffd110&p=dccda36951e6721097a93eae5c593859&display=feature&s=name&d=desc>
- Yam, K.C., Tang, P.M. & Lam, C. 2022. Working with animals: Implications for employees’ compassion, awe, prosocial behaviour, and task performance. *Personnel Psychology*. <https://doi.org/10.1111/peps.12517>
- Yin, R.K. 2013. Kvalitativ forskning från start till mål. Studentlitteratur AB, Lund. 324 p. (in Swedish).