

SOCIAL SUSTAINABILITY IN DAIRY FARMS. ROLES AND ACTIONS OF THE PROFESSIONAL ADVISOR IN REPRODUCTIVE PROCESSES

Authors:

Darío Sánchez Abrego^{1,2}, Alberto Dick¹, Sergio Pared¹

¹ Faculty of Veterinary Sciences, Universidad Nacional del Centro, Tandil, Argentina.

² Faculty of Economics Sciences, Universidad Nacional del Centro, Tandil, Argentina.

Contact: MSc Darío Sánchez Abrego

d.sanchezabrego@gmail.com Phone: +54-0249-4505024

Postal address: Moreno 448, 7000 Tandil, Argentina

Abstract

The veterinary profession demands holistic and multidisciplinary views that include health, herd animal welfare, human resources, and economic analysis. In this line, it is argued that work can be motivating when it is carried out in accompaniment to human resources. The objective of this work is to highlight, from the experiences of veterinarians, the aspects related to social sustainability in dairy farms and the new roles of the professional in the reproductive management of dairy cows. Within this framework, the professional prepared in sociological, biosafety and epidemiological aspects must implement standard operating procedures, staff training and auditing of reproductive management practices, foster a teamwork approach and monitoring through indicators for performance analysis, as measures of good practices that add value to production processes and enrich the work of human resources.

Keywords: *Veterinarian roles, reproduction, social sustainability, dairy farms, animal welfare, management.*

Introduction

Lately, the veterinary professional has experienced substantial changes in the production processes in which he is involved, so that the exercise of the profession requires new challenges. The advancement of technology, social variations as well as the cultural barriers of the staff of the farm and the requirements of the owners of the company have substantially influenced the new roles that the veterinarian must perform in daily activities.

Mee (2007) suggests that the approach of the veterinary profession requires holistic multidisciplinary visions that include aspects such as health, animal welfare of the herd, human resources and economic analysis. It is argued that work can be motivating when it is carried out in support of company owners and their staff (Bard et al, 2017).

The dairy farms are advised by professionals who generally work part time, in aspects such as reproduction, animal health, nutrition and pasture management, among others.

They also act as an indispensable link between the owners and the staff of farm, in the daily work of the management and the coordination of tasks of the work groups, including in the definition of positions and in the selection of new personnel.

The companies have implemented practices that improve the availability of information and internal control processes within the framework and the dissemination of knowledge, either through training or through staff rotation processes between areas of the company that allow showing and disseminating development of routines or tasks. We have suggested (Sánchez Abrego & Dick, 2017) in the case of dairy farms, this rotation process is used more as a result of a need than as a consequence of a management action.

The dairy industry is facing a major generational change and the average dairy farmer will continue to exist well into the future. Dairy farming, apart from being an economically very viable activity, with a great social impact and with deep roots, needs to be attractive for future generations. Captivating and retaining people in dairy farms is one of the challenges because the new generations demand more flexible and friendly jobs. For this, excellent training programs (formal, informal) must be implemented in the same dairy farms to increase the adoption of efficient labor practices that leads to a better standard of living (Lazzarini et al, 2019).

The objective of this work is to highlight, from the experiences of veterinarians, the aspects related to social sustainability in dairy farms and the new roles of the professional in the reproductive management of dairy cows.

Materials and methods

This inductive, qualitative phenomenological study was carried out between November 2019 and September 2021, in which 36 veterinarians participated, developing their duties part-time and with different work groups in the field of dairy companies in the Province of Buenos Aires.

Surveys and extensive interviews with veterinarians were used as primary sources of information in order to identify the good practices implemented and the factors associated with facilitating the reproductive processes in bovine dairy farms; As well as the formation of labor relations, the ability to transfer knowledge between human resources within the framework of cultural diversity, and the roles that veterinary advisors have in the communication processes and behavior of work groups in the field of business.

The perceptions of the informants are adopted as valid, understanding and explaining the phenomenon through the voices of the interviewees (Creswell, 2012).

Results

From the professionals it emerges that the main role of the veterinarian in the management of reproduction in dairy herds has evolved from addressing individual clinical situations in animals to reliably analyzing the reproductive efficiency of the herd. The Table 1 presents the characterization of veterinarians in relation to their years of experience in the practice of the profession.

Table 1: Years of professional practice in reproductive management in dairy farms.

RANGE OF EXPERIENCE	NUMBER OF VETERINARIES	SHARE IN THE TOTAL
Less than 10 years old	10	27,78 %
From 10 to 19 years old	14	38,89 %
From 20 to 29 años	8	22,22 %
Over 30 years old	4	11,11 %

When the impacts on the roles of the veterinarian were evaluated and it was oriented to know if there are roles originated by the new demands of the economic and social environment, the majority of the interviewees (69.44%) perceived that the economic and social environment does not impose new roles and that, those that are exercised, result from a traditional handling of the protocols on reproduction in the bovine dairy farms of the region.

Only 30.56% appreciate how the new dairy farm is imposing new professional roles on veterinarians, coinciding in all cases with professionals with a range of practice between 10 and 19 years.

When asked if the media requires technical aspects from the veterinarian in which they are not prepared, 58.33% of those surveyed perceive that businessmen require technical issues that require greater preparation and development of experience. Situation that should be taken into consideration both by the profession itself (Veterinary College) and by higher education institutions.

When it was assessed whether professional training requires greater knowledge about sociological aspects; in general, they do not perceive as significant having knowledge about sociological aspects. The paradox is that they recognize a very active professional work together with various work groups in the dairy farms that often suffer internal conflicts due to issues ranging from intercultural barriers to the inability to communicate or assume solidarity attitudes. Only 13.9% considered important the sociological aspects in work teams in the dairy farm.

In this sense, the interviewee V.14 states: "The concept of a wealthy employer generate resentment, particularly among employees who come from other cultures". In turn, the interviewee V.8 points out that "as advisers, we can understand each other's thinking, identify sources of conflict, and modify routines to mitigate negative impacts."

The assessment of whether the relationship between the professional and his client is emotionally neutral. Only 5.56% of veterinarians recognize that the relationship with clients has some degree of emotional bond, demonstrating for the vast majority that they have work bonds anchored in the trust and technical experience of the veterinary professional.

This paradigm shift has only been successful in a few dairy herds. When the reasons are analyzed, it is indicated that the critical situations to change are the scope of the veterinary

practical activity, the client's motivation and the quality and/or availability of productive data of the farm. Although most of the dairy farms have access to veterinary and agronomic services, only half of the producers have productive and economic records.

It is clear that professionals do not facilitate and/or implement the recording of information. Some veterinarians still view their role as an animal clinician while others have become team leaders in herd reproductive management. In some cases, the experience of teamwork leads to each professional member specializing in a specific technical issue, whose knowledge is shared by another or other members of the team, which allows their rotating work (Errico et al, 2015).

Why don't some vets switch focus to reproductive management?

Work in the UK found that although most producers would like their veterinary adviser to be involved in general breeding monitoring issues; about 50% of them agreed that veterinarians did not make effective use of reproductive and milk production data or participate in the organization of the workforce. A similar situation occurred in Ireland, with only 14% of veterinarians applying comprehensive herd health monitoring programs to their clients (Mee, 2007).

In the New Zealand case, most dairy farm veterinarians had 30% or less of their clients involved in planned and integrated reproductive management for reasons such as scale of production or lack of data (Fowler & Tiddy, 2006).

In addition to the technical challenges that veterinarians must address in their role of managing dairy herd reproduction, they also need to develop skills in communication and protocols. The most important constraint to reproduction of any dairy herd is the level of communication that the veterinarian has with farm staff, other advisors, and the farm owner or accountant.

Therefore, the main attributes that the veterinarian must develop are to develop empathy to understand the problems faced by the producer, patience and diplomacy, in addition to acquiring the ability to speak the same language as their clients (Lodge, 2004). The change in the role of veterinarians must be more evolutionary than revolutionary.

The change process begins when you have an incentive to change. For some it will be the economic incentive; which may be due to client demand, due to a professional alliance with other colleagues who provide other types of reproductive services or due to the incorporation

of new services. For others, it will be the intellectual stimulus to spend more time solving reproductive problems in cattle and spend less time on other veterinary concerns (Mee, 2007).

Veterinarians must be aware that the change can be managed by their own conviction or imposed. Before the change of role, they must prepare themselves in the new knowledge, skills and attributes; and understand that the management of human resources requires multidisciplinary contributions for its approach.

The management of the herd calls for awareness and training, both of professionals and human resources involved in dairy production processes, in addition to the change of certain forms of treatment towards animals that later results in better results. Among these actions, it is important to carefully select personnel for handling animals and train them properly so that their effort is not physical but mental.

In this sense, the interviewee V.6 states: "Employees who have confidence in themselves are those who have received the appropriate training and are in a better position to spread good practices on the dairy."

Teamwork turns out to be adequate since it coordinates efforts, unites objectives and aligns resources to achieve them and it also allows us to bring together the personal visions of all those involved, in particular the owners of the establishment, the professionals involved and the staff (Holden 2017).

Social sustainability and the problem of human resources

The development of human capital within the primary sector of dairy production has not made great progress with respect to the industrial, commercial or service sector. There are some conflictive situations such as high staff turnover, lack of operator training, low workforce performance, low motivation, lack of commitment, complex routines and extensive, poor housing conditions, communication problems and the lack of effective management, which makes labor problems a recurring theme in this sector.

These situations result in an increase in costs due to linking and unlinking processes, which implies a reduction in the efficiency and profitability of the company, negatively impacting the competitiveness of the dairy sector (Beltrán & Téllez, 2018).

In turn, the hiring of labor in the towns near the dairy establishments has decreased given the low supply of it, with which personnel from the urban sector or in remote regions and where other cultures and even languages prevail (as in Argentina). For the most part, this workforce is unaware of the work in dairy production, which requires training and support efforts (Sánchez Abrego & Dick, 2017).

From the interviews with the veterinarians, it emerges that the 5 main factors required for better management of human resources are those shown in Figure 1 giving a higher value to the factors: "Training" and "Labor Flexibility" (an issue at odds with current legislation in Argentina).

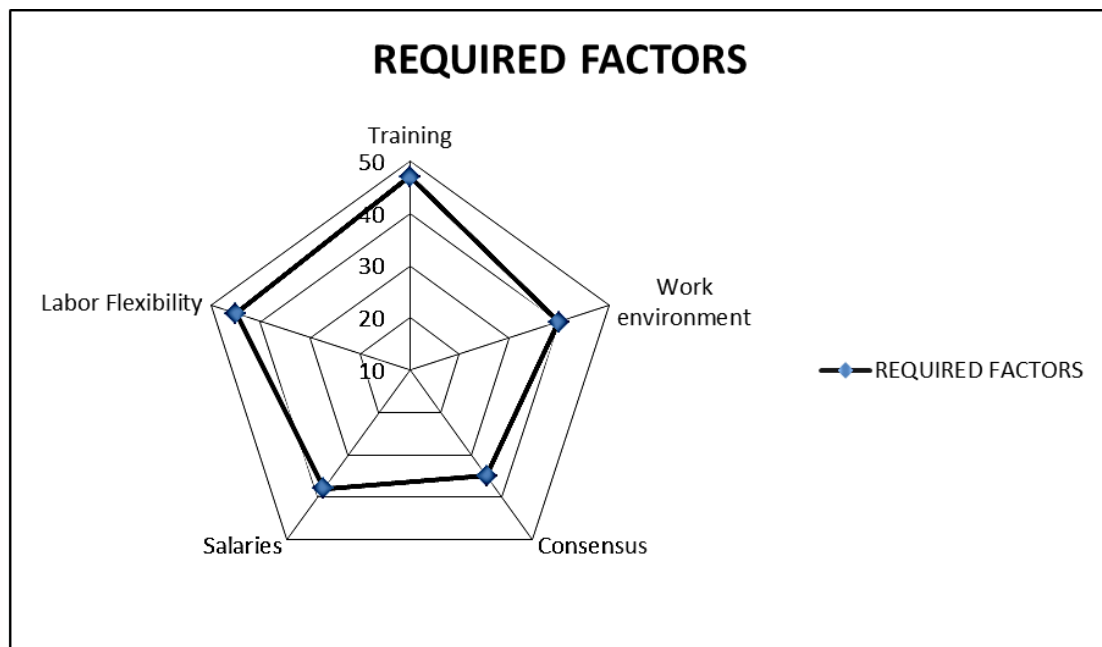


Figure 1. Factors required for HR management

As Milligan (2017) suggests, the success of dairy companies increasingly depends on the employer's ability to develop a competent, motivated and passionate company. Within this general framework, human resource management plays a fundamental role in the sustainability of a dairy production system (Durst et al., 2018; Rolfe, 2017; Sánchez Abrego & Dick, 2017).

For this reason, it is necessary for the professional to get involved in cohesion-building processes that allow work groups to take on new challenges in a win-win attitude that results in benefits for all parts. This will improve the work environment and envision an atmosphere

of efficiency at work allowing to achieve, as suggested (Cartwright & Zander, 1953), a fair balance between the forces of cohesion arising from group norms and the forces of dissociation from the scale of values of the subgroups that compose them.

There are various techniques and processes to achieve this goal, among which we highlight the following:

- a) Officialize team meetings with a strong structure based on a written agenda, a follow-up system through notes and the implementation of performance measurement tools (Holden, 2017).
- b) Propose specific achievable objectives to motivate, create spaces for open participation, give rise to leisure activities and respect schedules (Heald, Holden & Hutchinson, 2002).

The interviewee V.18 states: "In the work team at the dairy there is trust, but it is not eternal, it is earned every day and the parchments are put into play at every moment".

Also the interviewee V.22. add: "The working life in the dairy is routine, but sometimes what they know what they have to do is not protocolized, word of mouth needs to be formalized."

How can veterinarians better implement their role in reproductive management within a framework of social sustainability?

The real measurement and monitoring of the reproductive performance of the herd with the most suitable measurements and at the right time, it allows us to confidently compare the performance of the rodeo with previous years and also compare the results obtained with leading producers. In the same sense, the impact of social sustainability can be evaluated by implementing adequate indicators to measure performance and motivate your work team towards better performance.

Based on what was suggested (Litwin et al, 2016), an interesting proposal of indicators to measure social sustainability in the dairy company is:

	VARIABLE	INDICATORS
	Habitat Comfort	Habitability of the house

Social Sustainability		Environment Quality of Life
		WiFi signal connectivity
		Access to school for their children
	Labor comfort	Task Complexity
		Remuneration
		HR rotation
		Breaks and leaves
	Labor environment	Organizational culture
		Leisure time
		Conflict resolution
	Continuity	Family labor
		Succession
		family protocol

The new roles of the veterinarian in a program to improve reproduction in dairy farms, requires making the decision to practice the profession in a planned approach to reproductive management, demonstrating the costs and benefits of the program. In this sense, the interviewee V.31 expresses: “There is no procedural manual of good practices because companies in general do not have roles defined in writing”.

The veterinarian must also design processes to educate, train and audit human resources in reproductive management practices, encourage the attainment of certified training by encouraging at all times a team approach in reproductive management and monitoring the performance of resources, without forgetting the factors that motivate employees and that we have addressed in a previous work (Sánchez Abrego, Dick & Fernández, 2015).

Conclusions:

Dairy veterinarians traditionally focused their role on the individual evaluation of animals, clinical and infectious problems, but this must be complemented with a vision of complete and integrated management of the herd. This new role encompasses leading the change to a planned approach to monitoring the reproduction, cost analysis, planning visits on reproductive management and collaborating with the producer to establish specific, measurable and achievable objectives.

In the same sense and within the framework of social sustainability, it must implement standard operating procedures, staff training and audit of reproductive management practices, encourage a teamwork approach and monitoring through indicators for performance analysis, as good practice measures that add value to production processes and enrich the work of human resources.

The veterinarian, before embarking on a change of role, must prepare himself very well in the new knowledge, skills and attributes required, both in the aspects of biosafety, epidemiological techniques and health as a whole, as well as in the sociological aspects that surround human interrelationships, be it with the owners of the business or with the participants of the work groups.

Bibliography:

Beltrán, D., Téllez, G. (2018). Estudio de percepción del clima organizacional de las empresas tecnificadas de ganadería de leche de la provincia de Tundama en el departamento de Boyacá. *Revista de la Facultad de Medicina Veterinaria y Zootecnia*, 1-21,65 (1).

Bard, A.M., Main, D.C., Haase, A.M., Whay, H.R., Roe, E.J. & Reyher, K.K. (2017). The future of veterinary communication: Partnership or Persuasion? A qualitative investigation of veterinary communication in the pursuit of client behavior change. *Plos ONE Journal* 12(3): e0171380. Doi: 10.1371/. University of British Columbia. Canadá.

Cartwright, D. & Zander, A. (1953) *Group Dynamics. Research and Theory*. New York. Row. Peterson & Co.

Creswell, J. (2012) *Qualitative Inquiry and research design*. Third Edition. Sage Publications. ISBN 9781412995306

Durst, P., Moore, S., Ritter, C., Barkema, H. (2018). Evaluation by employees of employee management on large US dairy farms. *Journal of Dairy Science*, 7450-7462, 101 (8)

Errico, A., Errico, R., Errico S., Mihura, H., Cadodevila, J. & Callejas, S. (2015) Efecto del manejo sobre el comportamiento y la preñez a la IATF en vaquillonas Angus. *Revista Taurus* año 17, n° 67 Pp. 18-21.

Fowler, C. & Tiddy, R. (2006) Farmer and rural professionals needs analysis on herd reproduction management. Dexcel Rep. 1-22

Heald, C., Holden, L. & Hutchinson, L. (2002) Dairy Advisory Teams. Hoards Dairyman. Penn State University.

Holden, L. (2017) Using dairy advisory teams for benchmarking and decision making. 21^o IFMA. Edimburgh. Scotland.

Mee, J.F. (2007) The role of the veterinarians in bovine fertility management on modern dairy farms. *Theriogenology*, 68S Pp. 257-265.

Lazzarini, B., Baudracco, J., Tuñón, G., Gastaldi, L., Lyons, N., Quattrochi, H. & Lopez-Villalobos, N. (2019) Review: milk production from dairy cows in Argentina: current state and perspectives for the future. *Applied Animal Science* 35: 426-432.

Litwin, G., Giménez, G., Alvarez, H., Esnaola, I., Centeno, A., Moretto, M., & Charlón, V. (2016). Indicadores de sustentabilidad en tambos comerciales de la cuenca lechera pampeana argentina. Paraná: INTA.

Lodge, D. (2004) Constraints on reproduction in dairy cattle. A veterinary viewpoint. *Cattle Pract*; 12: 51-56.

Milligan, R.A. (2017). Leadership for the farm business. En: BEEDE, D.K. (Ed.). *Large Dairy Herd Management*. 3rd ed. Am. Dairy Sci. Assoc., Champaign, IL. 1179-1187 pp.

Rolfe, C. (2017). Leadership and employee engagement in the New Zealand dairy farming industry-is there a link with milk production performance?: a thesis presented in partial fulfilment of the requirements for the degree of Master of Arts in Psychology at Massey University, Manawatu, New Zealand (Doctoral dissertation, Massey University).

Sánchez Abrego, D., Dick, A. & Fernandez, N. (2015) Knowledge management in Dairy Farms: Development of ties in working groups. The case of the Mar y Sierras Área in Argentina. 20^o IFMA. Quebec. Canadá.

Sánchez Abrego, D. & Dick, A. (2017) Knowledge management in Dairy Farms: Role of advisers in the formation of labor relations. The case of the Mar y Sierras Área in Argentina. 21° IFMA. Edimburgh. Scotland.