

“Rural Extension - Dairy Cattle” of the Professional Improvement Program in Veterinary Medicine at University of Franca provides veterinary assistance to small rural properties of region**“Extensão Rural - Gado de Leite” do Programa de Aprimoramento Profissional em Medicina Veterinária da Universidade de Franca proporciona assistência veterinária a pequenas propriedades rurais da região**

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ABSTRACT

The rural extension is a technical activity that aims at an educational and instructive character in assisted properties, especially for small and medium rural dairy farmers. In this way, among other factors, it aims to maintain the welfare and health of the animals involved and also to produce subsistence with the activity. Given the importance of dairy farming in Brazil and the various difficulties encountered in this sector, this work aims to report the performance and importance of the “Rural Extension - Dairy Cattle” Project of the Professional Improvement Program in Veterinary Medicine at the University of Franca (UNIFRAN). This extension project, created in 2012, in addition to improving the knowledge of recently graduated academics, provides veterinary technical assistance to small rural dairy farmers in the city of Franca (SP) and region, especially in relation to the processes that involve the handling, welfare, nutrition, production, reproduction and health of the animals. Each selected student develops these activities for two consecutive years, under the constant supervision and guidance of the institution's faculty, in addition to the assistance of interns. Thus, using the rural extension methodology recommended by the “Rural Extension – Dairy Cattle” Project, It is admitted that it provides the intensive improvement of the veterinarian for being directly inserted in the current job market, in addition to offering instructions to rural producers followed by animal care, which favors the productivity and quality of the product obtained.

Keywords: Cattle, Extensionism, Technical guidance, Dairy farming.

RESUMO

A extensão rural é uma atividade técnica que visa o caráter educativo e instrutivo em propriedades assistidas, especialmente para os pequenos e médios produtores rurais de gado de leite. Deste modo, dentre outros fatores, almeja a manutenção do bem-estar e saúde dos animais envolvidos e também para a produção de subsistência com a atividade. Diante da importância da pecuária leiteira no Brasil e das várias dificuldades encontradas neste setor, o presente trabalho tem a finalidade de relatar a atuação e a importância do Projeto de “Extensão Rural - Gado de Leite” do Programa de Aprimoramento Profissional em Medicina Veterinária da Universidade de Franca (UNIFRAN). Este projeto de extensão, criado em 2012, além de aprimorar os conhecimentos de acadêmicos recém-

formados, disponibiliza assistência técnica veterinária a pequenos produtores rurais de gado de leite da cidade de Franca (SP) e região, especialmente em relação aos processos que envolvem o manejo, bem-estar, nutrição, produção, reprodução e sanidade dos animais. Cada aprimorando selecionado desenvolve tais atividades por dois anos consecutivos, mediante a supervisão e orientação constante de docente da Instituição, além do auxílio de estagiários. Assim, mediante a metodologia de extensão rural preconizada pelo Projeto de “Extensão Rural - Gado de Leite” admite-se que o mesmo proporciona o aperfeiçoamento intensivo do médico veterinário por estar inserido diretamente no mercado atual de trabalho, além de oferecer instruções aos produtores rurais seguidas de atendimento dos animais, o que favorece a produtividade e qualidade do produto obtido.

Palavras-chave: Bovinos, Extensionismo, Orientação técnica, Pecuária leiteira.

1 INTRODUCTION AND LITERATURE REVIEW

The Brazil is the country with the largest commercial cattle herd in the world, being the largest exporter in the world. The production of milk and meat is promising and characterized as one of the agribusinesses that boost the country's economy (COSTA et al., 2016). The gross production value of these two segments is estimated at R \$ 67 billion, in all Brazilian states, that shows the economic and social importance of this activity in the country (ARAÚJO, 2007).

However, erroneous conduct with rural administration, occurrence of diseases in the herd and reproductive problems of animals can cause significant losses to national livestock, to causing a fall in production, increased mortality, higher production costs, in addition to spending on attempts to control and treat (CASTRO, 2005).

In this sense, veterinary rural extension is an activity that offers qualified technical assistance with educational purpose to improve the economic and social level of the individuals who survive from this activity, passing through educational means the work techniques production and marketing methods, to point of making the industry sustainable, thus avoiding rural exodus, especially from small producers (ARAÚJO, 2007). Besides that, the rural extension program aims to promote the health and well-being of farm and breeding animals (CASTRO, 2005).

The rural assistance and extension program follows development strategies aimed at building environmentally sustainable productive processes, economically profitable and equitably acceptable. One of the biggest challenges attributed to extensionism is the promotion of sustainability and food security (FERREIRA et al., 2009). Thus, the rural extension acquired a new service format, that goes beyond the guiding role, providing technical assistance with the aim of strengthening agriculture (PETTAN, 2005).

To carry out the extension project, it is essential that the veterinarian is qualified and has fundamental knowledge aimed at livestock production and reproduction, another important issue is

that this professional is able to learn and teach new production methodologies and Technologies, in order to sensitize the participation of producers to succeed in carrying out the tasks (DIAS, 2008).

In this context, the veterinarian should also implement strategies that minimize factors responsible for falling productivity in the properties, such as failures in rural administration, basic resource planning, promotion of animal welfare, correction of animal nutritional deficiencies, health problems and reproductive control, among others (GONÇALVES, 2014). Thus, in order to be successful in the veterinary assistance program, it is important to analyze the productive and zootechnical indexes of each property, as well as to correlate the production data, both individual and collective. Even so, instructing producers on how to decrease production costs, thus keeping them in the production chain. However, the interaction between veterinarian, landowner and employees is essential (MARTINS et al., 2011).

The rural extension programs are important to improve the reproductive efficiency and profitability of rural properties. In addition to the qualified veterinary technical assistance that started to incorporate the molds of the modern extension, the programs can also be complemented with information attribution through technological tools that provide basic knowledge, community lecture methods and booklets with technical material can still be used (MARTINS et al., 2011).

With regard to dairy farming, numerous challenges, as well as the economic, can generate considerable losses especially for small producers. In this way, the efficient production system as reproduction, the main pillars keep the producer in activity and increase the birth rates of the animals and subsidize the production of the future matrices (PEREIRA et al., 2013). Thus, the milk production system depends on reproductive performance, since it is through it that the quantity and quality of replacement animals is determined, and consequently the discard, directly interfering in their genetics, as well as in their productive capacity (PEREIRA et al., 2013).

To obtain satisfactory results in reproductive performance, it is necessary that the veterinarian constantly establish the property indexes to evaluate the animals individually, enabling control and identification of problems. Genetic, health, nutritional, environmental and management issues also need to be properly instituted (WALSH et al, 2011).

The percentage of reproduction below the ideal causes a deficit in production, as animals that have an interval between long deliveries represent damage to the property. Thus, the number of unproductive animals increases and the number of lactating animals decreases, as a consequence, there is a decrease in milk production, progenies, an increase in the rate of disposal and maintenance costs (BORALLI; ZAPPA, 2012; BARBOSA, 2011; MARTINS et al., 2011).

The search for new techniques to reduce costs and consequently provide income is essential for the producer to maintain competitiveness. For this, it is necessary to raise the awareness and collaboration of researchers, technicians, producers and employees involved in the production system (BEZERRA et al., 2011; BARBOSA, 2012).

The ultrasound examination is a type of biotechnology that has been widely used in this type of assistance, helping in the reliable diagnosis of pregnancy, in addition to diagnosing several pathologies, mainly reproductive (MARQUES JÚNIOR, 2011).

Hormonal protocols are great tools that can be used in order to increase the fertility index and the birth rate of animals. These are based on the sequential administration of hormones that aim at the synchronization of ovulation and artificial insemination at the appropriate time, but it is necessary that the animal is prepared to use this technique, being essential the periodic monitoring of the veterinarian (SCALCO; SOUZA, 2006; BENZAQUEN et al., 2007).

Reproductive pathologies in animals focused on dairy production (metritis, pyometra, endometritis, neoplasms, follicular cysts, placental retention, among others) (SANTOS et al., 2009; DANTAS et al., 2010; MARQUES JÚNIOR, 2011), predisposing factors are flaws in pre-delivery management, nutritional and endocrine disorders, stress, poor health and post-partum infections (ANDERSON et al., 1990; BRUUN et al., 2002; MEJÍA; LACAU-MENGIDO, 2005; AZAWI, 2008). Such pathologies are usually triggered in the postpartum period and extend for periods that can range from weeks to months, generating considerable losses, with a marked impact on the economic point of view (FOURICHON et al., 2000; DRILLICH et al., 2005). In addition to the increase in the interval between births, the losses occur due to costs with treatment, management, labor, veterinary assistance and drop in production. In addition to the possibility of disposal, genetic loss and consequently replacement of animals (ANDRADE et al., 2005; BERGAMASCHI et al., 2010).

In this way, the use of diversified technologies combined with information and trained veterinary technical assistance, has helped in animal reproduction, allowing higher birth rates and, as a consequence, greater production and profitability. (MARTINS et al., 2011).

Still, numerous zoonotic diseases (brucellosis, tuberculosis, leptospirosis, rabies, mastitis, among others) and management problems can affect the herd, causing loss of productivity and death of the animals, which also causes economic losses to rural producers (DRILLICH et al., 2005).

In view of the numerous difficulties encountered in small rural dairy farms, the objective of this paper was to discuss the importance of the Rural Extension Project - Dairy Cattle linked to the Professional Improvement Program in Veterinary Medicine at the University of Franca, in veterinary technical assistance for improvements in the management, welfare, nutrition, production,

reproduction and health of animals on small farms located in the region of Franca and its surroundings.

2 METHODOLOGY AND DEVELOPMENT

The Rural Extension Project - Dairy Cattle of the University of Franca (UNIFRAN) was created in 2012 and from 2014 it was linked to the Professional Improvement Program in Veterinary Medicine of this same Institution. Thus, it currently offers veterinary technical assistance to small and medium milk producers in the region of Franca - SP, carried out by improving the area on constant guidance and supervision of the responsible teacher.

Small and medium-sized dairy farms assisted by UNIFRAN are located within a radius of 150 km from the city of Franca – SP, covering the municipalities of Franca (SP), Buritizal (SP), Guará (SP), Pedregulho (SP), Cristais Paulista (SP), Patrocínio Paulista (SP), Ibiraci (MG), Claraval (MG) and Delfinópolis (MG) , totaling twenty properties.

The Technical visits are carried out once a month or when requested by producers, in emergency cases. Normally, the opening hours involve the morning and afternoon and, in exceptional cases, the evening. When necessary, both the student and the teacher responsible for the project also help rural producers through technological channels (whatsApp, phone and internet).

In addition to improving, the Rural Extension Project - Dairy Cattle is accompanied and assisted by interns from the undergraduate course in Veterinary Medicine at UNIFRAN or other interested institutions that are completing supervised curricular internship. Also, when necessary, improving the area of Medical and Surgical Clinic for Large Animals of the Professional Improvement Program in Veterinary Medicine at UNIFRAN also help to improve the extension.

Each enhancement of the extension participates in the project for two consecutive years, as provided for in the notice of the Professional Improvement Program in Veterinary Medicine.

Periodic visits facilitate early detection of problems related to rural property, as in animals, it allows the diagnosis of diseases, provides the institution of therapeutic and or prophylactic treatment, aiming at the life, survival and productivity of animals, together with the quality of the products originated, which consequently avoids economic losses to the rural producer.

During technical visits, various instructions and orientations are carried out, ranging from the administration of the property to the handling of the animals, clinical, surgical and reproductive assistance to dairy animals is also carried out, as well as the collection of biological materials (blood, feces, urine, milk) , among other biological materials) to assist in diagnosis. Os exames complementares são encaminhados e processados no Laboratório Clínico do Hospital Veterinário da UNIFRAN.

Among the services most commonly provided by the project are: milking management guidelines (hygiene of equipment, facilities and basic procedures for obtaining quality milk), sanitary management of animals (mastitis prevention techniques and basic care for newborns, ectoparasite control, vaccination, vermin), nutritional planning (bulky, concentrated and mineralization), cynical care, elective and emergency surgical procedures and reproductive control (pregnancy diagnosis with ultrasound, hormonal reproductive treatment, fixed-time artificial insemination and intrauterine infusion).

In some more complex cases, the animals are sent to the Veterinary Hospital of UNIFRAN to perform complementary exams, surgeries and or even internment for continuity of the instituted treatment.

The products, materials and medicines needed for the assistance, surgeries and other treatments of animals from the rural properties assisted by the project are taken by improving it during monthly visits. In this sense, the cost price is passed on to the producer involved. Likewise, the recommended vaccine control according to the schedule established for each property and at the discretion of the producer, emphasizing the mandatory implementation and administration of vaccines established by legislation.

Monthly, improving it together with the professor responsible for the Rural Extension Project - Dairy Cattle of the University of Franca prepare and make available a report to the senior managers of UNIFRAN, discriminating the attendance and services provided, in addition to the costs and payments of each assisted property.

Scientific studies have shown that the interaction between veterinary technical assistance and information obtained through rural extension, provides benefits both to rural producers, improving the efficiency of the property, as well as to the professional who provides assistance, having the opportunity to improve his techniques, especially academics recently graduated in improvement programs (CASTRO, 2005; GONÇALVES et al., 2014).

The new model of rural extension is not restricted to technical and social orientations, but also offers technical assistance to animals in assisted properties and allows the exchange of experience between the producer and the professional (CASTRO, 2005). However, in order to obtain good results, cooperation between the parties involved is essential. (PETTAN, 2005).

In view of the current study, it is observed that the Rural Extension Project - Dairy Cattle of the University of Franca collaborates both for the welfare and health of the animals involved, which increases their quality of life and survival. It is noteworthy that the University of Franca is one of the only institutions that offers this specialty of improvement.

3 FINAL CONSIDERATIONS

The rural extension model offered by the Rural Extension Project - Dairy Cattle of the University of Franca follows the current molds of rural extensionism; in this way, the veterinarian actively participates in the assistance of small and medium farms of dairy cattle, improving their qualification and improvement in the livestock sector, as well as the trainees who accompany him. Nevertheless, such a project adds essential information and techniques to the assisted rural producers, making them guarantee animal welfare, in addition to reducing economic losses while increasing productivity and profitability of dairy farming.

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