Encouraging the improvement of the performance of dairy cattle of family farmers

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Ângelo Luís Silva Santos
Graduating in Agronomy
UNITPAC
E-mail: angeloluis_2011@hotmail.com

João Pedro Rocha Tose
Graduating in Agronomy
UNITPAC
E-mail: jptose14@gmail.com

Ana Izabella Freire
Post-doctoral student
UFLA
E-mail: anaizabellinha2014@gmail.com

Filipe Bittencourt Machado de Souza
PhD
University of Brasilia
E-mail: fbmsouza@yahoo.com.br

Nicolas Oliveira de Araújo
Master's student
UNITPAC
E-mail: nicolas.araujo@ufv.br

ABSTRACT
As higher yields are reached, it is noticed that dairy farming has been achieving high rates of return on invested capital and higher remuneration than the producer could earn if he were working in large urban centers. It is possible to perceive that the dairy activity is, within the national agribusiness, an important source of income and employment. Promoting the development of this activity is one of the main issues that move agricultural research. To achieve this feat, it is essential to combine technology with the change of attitude and thinking of the producer. The confidence in the efficiency of the technological solutions proposed is the differential in this process. Artificial insemination is a technique by which sperm collected from the male is processed, stored and artificially introduced into the reproductive tract of the female, to fertilize them. It is one of the important techniques available for genetic improvement of domestic animals. It presents as advantages the improvement of the herd, in less time and at a lower cost, with semen of proven superior breeders for the production of milk. The consideration of the prevalence of diseases in the dairy herd is also part of the identification of the critical points to improve animal production. Therefore, measures of control, diagnosis, treatment and awareness of producers are crucial for the maintenance of an adequate degree of production of the animal and the greater will be the milk production.

Keywords: Artificial insemination, Productivity, Breeding, Producers.

1 INTRODUCTION

1. Milk is essential to human food and is produced all over the world. The importance can be observed in the world productive and economic environment, especially in countries considered to be developing and in family farming systems.
2. According to the Food and Agriculture Organization of the United Nations (2018), approximately 150 million households worldwide are engaged in dairy production, and it is characteristic of most developing countries to produce from smallholder farmers as it provides quick returns to small-scale producers.

3. Brazil is among the five largest producers in the world, with 34 billion liters, with Minas Gerais being the largest national producer. Consumption - In terms of consumption, Brazil occupies the 65th position in the ranking of world consumption of dairy products, with an annual average of 169 liters per person (FAO, 2020).
4. In Brazil, milk is one of the six most important products of Brazilian agriculture, being essential in the supply of food and in the generation of employment and income for the population (EMBRAPA, 2016). The country has the second largest cattle herd in the world, behind only India (MILKPOINT, 2015)
5. According to Costa et al (2015) the milk and dairy products sector has a large volume in the generation of jobs, surpassing areas such as construction and automobile industry for example, which ends up being an income generating fact. The authors point out that for every R$ 1 million in products demanded, milk generates 197 jobs, surpassing the other sectors.
6. It is possible to perceive that the dairy activity is, within the national agribusiness, an important source of income and employment (DAL MAGRO et al., 2013). Gomes and Medeiros (2007) stated that milk producers present their business unviable if they cannot effectively work the production costs and their technological structures, always maintaining innovation in the field.
7. Bland et al. (2015) found that little is known about dairy activity in several Brazilian regions, which alerted to the need for studies that allow to know in more depth the characteristics of dairy farms, thus providing new studies that help bottlenecks in production.
8. Knowledge, coupled with the capacity for technological innovation on the part of producers, ensures better economic results for their dairy activities. There is also the strengthening of commercial relations with milk purchasing companies. Such conditions contribute to the development of the milk production chain in the South of Minas Gerais
9. The profitability of the dairy activity, defined as the efficiency of the business to generate profit or net income is related to the isolated effect and the interaction between variables, among them those inherent to production technology, market conditions, geographical location (excellent in the South of Minas Gerais), food and animal health (JUSZCZYK, 2005).
10. The producer, for lack of knowledge, ends up believing that the production of milk with superior quality is possible only with the use of technology, most of the time expensive, which is not true, since it is possible to produce it with simple and low-cost technology,

leading to the need to develop training programs for producers, enabling access to knowledge and appropriate production techniques (MAIA et al, 2013).

11. The family-based dairy production chain shows promise, taking into account the forecasts that Brazil will present growth in this sector, and also the capacity for rapid adaptation and productive reconversion of this system.

2 GOALS

– Increase productivity and profitability in milk production in order to improve quality of life of producers by fixing them in the field;

– Genetic improvement of dairy cattle with the use of semen from Proven Bulls of the Holstein and Gir dairy breeds;

– Promote integrated actions generating new perspectives for rural producers;

– To train interested and able producers in the municipality to do artificial insemination;

– Raise awareness and contribute to small producers about the vaccine schedule (Brucellosis, Manqueira, Foot-and-Mouth Disease and Rabies);

– Eradication of bovine brucellosis in the municipality;

– Raise awareness and contribute to the deworming of the herd, do the deworming twice a year (entries: drought / water) in ALL animals;

– Advise on hygiene in milking;

– Show motives and ways of controlling mastitis in cows;

– Differentiate smallpox from mastitis and its forms of control;

– Ways to control the number of periodic ectoparasites according to manifestation;

– Importance of colostrum for calves, especially in the first six hours after birth;

– Make the healing of the navel to avoid infections;

– Importance and care in dehorning;

– Improvements in pasture and supplementation to animals;

– Advise on farmer's card.

3 DEVELOPMENT

3.1 PROJECT REQUIREMENTS

– Register in the Program at the Municipal Department of Agriculture;

– Documents: Farmer's card and identity;

– Participate in events related to Dairy Cattle Ranching, such as: lectures, meetings, field days, meetings, courses and training;

- Control through annual examinations of tuberculosis and brucellosis, for all mothers of reproductive age;
- Be a family farmer with data;
- Vaccination of calves, at the age of 3 to 8 months, against Brucellosis;
- Existence of pasture and/or silage and/or weeding sufficient for good feeding by adopting appropriate management practices;
- Formation and recovery of pastures;
- Production of bulky supplement for the "dry" period, e.g. sugar cane, weeding, silage and etc.
- Constant use of mineral salt;
- Have commitment in the management with the offspring;
- Participate in the agricultural exhibition and dairy tournament of the municipality with animals resulting from the program;
- Mark the animals from the hot iron or nitrogen program in the QPA;
- Monthly Dairy Control;
- Preparation of maternity picket;
- Ruffian
- Trunk
- Reproductive control
- Use of individual binder;

3.2 EXECUTION

3.2.1 Artificial Insemination

- For the act of artificial insemination, it is necessary that the producer communicates to the Department of Agriculture as soon as the animal enters heat (the estrus lasts from two to 18 hours), so that we can schedule the service.
- Artificial insemination is done in the final third of estrus, that is, when the animal no longer accepts mounts.

Note: Heat itself is when the animal rides and accepts rides.

Signs of estrus are:

- Restlessness and nervousness;
- Tail raised;
- Urinating constantly;
- Vulva swollen and shiny;

- Rides other females;
- To facilitate the work the following rule is used: the cow dawned in heat, must be inseminated after 17:00 hours, and if the cow presents estrus after 10:00 a.m., it is to be inseminated the next day very early before 7:00 a.m.
- Before coming into contact with the inseminator, check if the mucus is crystalline, shiny, similar to the "egg white", because, if the mucus is dirty, insemination will not be done, and the producer must make the appropriate treatment of the animal;
- Inform if it is a cow or heifer;
- Dry the cow 60 days before calving, because it is in this period that the growth of the fetus accelerates;
- In the act of artificial insemination, notes are made on two-way sheets. The first route is with the producer and the second with the Municipal Department of Agriculture.
- In case the animal repeats the "CIO", the semen will be provided for a second insemination. If you repeat the "CIO" is a sign that the animal needs treatment, and the semen for a new insemination will only be released with proof of treatment performed by the veterinarian of the Department of Agriculture, or other professional in the field.

The hired or trained inseminator shall:

- Have commitment, interest and seriousness;
- Do not use alcohol during working hours;
- Be responsible for the tools and materials delivered to you;
- To take care of the equipment entrusted to it;
- Be attentive to maintenance, supply and replacement of materials necessary for the operation of the program;
- Correctly write down on a proper form the name of the owner, name of the property, region, name of the animal, the date, the time, the departure of the semen and the name of the bull, after each insemination

3.3 COST OF THE PROGRAM TO THE PRODUCER

Zero cost to the milk producer of the municipality, sponsored by the City Hall of the municipality.

3.4 RESPONSIBILITY OF THE PROGRAM

- Municipal Department of Agriculture;
- Provide semen for rural producers, Family Farming;

- Make available the inseminator or make the training of representatives of each neighborhood interested and able to meet the demand of rural producers of the municipality;
- Provide conditions and transportation for the inseminator, if contracted;
- Provide materials such as sheaths, gloves (five fingers), nitrogen (the necessary) and others if necessary for the development of the program;
- Seek solutions for the smooth running of the program;
- Participate in the periodic evaluations of the properties;
- Promote meetings with those involved;
- Issue reports and disseminate results.
- Schedule with specialized firms the supply of the cylinder with liquid nitrogen;
- Technical Manager:

Veterinarian ---------- - CRMV- TO -------

Observations:

The producer who chooses to perform artificial insemination by inseminator of his trust will have the semen available from the following times:

Saturdays, Sundays and holidays look for the inseminator ---------- cell phone: ----------

Bring appropriate thermal packaging to transport the semen;

There is no need to displace the cylinder, because the transport of semen will be done with an ordinary thermos, half a liter, with clean and warm water at a temperature of 37 ^{0}C (use thermometer). The semen can stay in these conditions up to 120 minutes, however, the faster its application, the greater the chance of successful fertilization.

4 EXPECTED RESULTS

It is expected to increase productivity and profitability in milk production in order to improve the quality of life of producers, in addition to promoting integrated actions generating new perspectives for them and thus fixing them to the field.

REFERENCES

BLAND, S. I.; MUMBACH, G. L.; DIEL, M. I.; PORTELA, V. O.; SCHNEIDER, F. J. A.; SILVA, D. R. Dados preliminares sobre características de propriedades de bovinocultura leiteira da região Noroeste do RS. Revista Interdisciplinar de Ensino, Pesquisa e Extensão, Cruz Alta, RS, v. 2, n. 1, 2015.

DAL MAGRO, C. B.; DI DOMENICO, D.; KLANN, R. C.; ZANIN, A. Contabilidade rural: comparativo na rentabilidade das atividades leiteira e avícola. Revista Online de Custos e Agronegócio, Recife, v. 9, n. 1, p. 2-22, 2013.

COSTA, V. S. et al. Análise de custos a partir da cadeia do valor do leite e seus derivados na região Seridó do Rio Grande do Norte. Revista Ambiente Contábil, Natal, v.7, n.1, jan-jun., 2015.

EMPRESA BRASILEIRA DE PESQUISA AGROPECUÁRIA – EMBRAPA. Gado do Leite – Importância Econômica. Disponível em Acesso em 15 junho 2023.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO). Dairy Production and Products – Milk Production. Disponível em Acesso em 10 junho 2023.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO). Dairy Production and Products – Milk Production. Disponível em Acesso em 10 fev. 2023.

JUSZCZYK, S. Milk production profitability: multiple regression analysis. Electr. J. Polish Agric. Univ., v.8, 2005.

MAIA, G. B. S. et al. Produção leiteira no Brasil. BNDES Setorial, Rio de Janeiro, v.37, p. 371- 398, 2013.

MILKPOINT. Giro Lácteo. Disponível em Acesso em 12 junho 2023.

OLIVEIRA, J. S.; GOMES, A. L.; MEDEIROS, J. G. Análise de eficiência e alocação de recursos na produção leiteira do estado do Rio de Janeiro. In: CONGRESSO DA SOCIEDADE BRASILEIRA DE ECONOMIA, ADMINISTRAÇÃO E SOCIOLOGIA RURAL, 45, 2007.

ATTACHMENTS

PLANEJAMENTO SANITÁRIO DE GADO DE CORTE

Anexo 1. Calendário sanitário de gado de corte.

Atividades	Mês												Observações
	J	A	S	O	N	D	J	F	M	A	M	J	
Preparação	*	N	N	N	M	M	M		D	D	D		**N - nascimento, M - monta, D - desmame, pm - preparação para monta.**
Diarréias	*			*	*								Vacinar vacas e bezerros contra os agentes envolvidos nos surtos identificados.
Corte e cura do umbigo		*	*	*									Ao nascimento – imersão em iodo a 10%.
Colostro		*	*	*									Até seis horas após o nascimento.
Brucelose		pm							*	*			Vacinar as fêmeas entre três e oito meses de idade. Marcar com um V no lado esquerdo da cara.
Clostridioses									*	*			1ª dose – quatro a seis meses de idade. 2ª dose – seis meses após.
Febre aftosa					*			*			*		De acordo com a defesa sanitária animal.
Raiva animal								*					Vacinar aos quatro meses e anualmente em áreas de risco.
Tricomonose		pm											Descarte dos machos e descanso das fêmeas.
Campilobacteriose		pm											Descarte dos machos e vacinar fêmeas.
Leptospirose		pm											Vacinar as fêmeas em situações de risco.
Rinotraqueíte infecciosa bovina (IBR) Diarréia bovino a vírus (BVD)		pm											Vacinar 60 dias antes da monta em rebanhos com problema.
Ectoparasitos			*	*	*	*	*	*					Na época das águas, segundo recomenda Embrapa Gado de Corte.
Verminose	*		*								*		Dosificar do desmame aos 2,5 anos de idade.

sumário capítulo anterior