Epidemiological aspects associated with contagious mastitis in dairy herds from central region of Rondonia State, Brazil - Dias J.A.*[1], Souza G.N.[2], Brito M.A.V.P.[2], Silva M.R.[2], Ferreira F.C.[1], Araújo L.V.[1]

1 - Embrapa Rondônia, Porto Velho, Rondônia, Brazil
2 - Embrapa Gado de Leite, Juiz de Fora, Minas Gerais, Brazil
*poster presenter: juliana.dias@cpafro.embrapa.br

Considering the socioeconomic importance of dairy farming to the state of Rondonia and the impact of intramammary infections in milk production and quality, it is proposed to carry out epidemiological studies concerning mastitis in dairy herds of state. The aims of this propose are to: estimate the prevalence of contagious mastitis pathogens (*Staphylococcus aureus* and *Streptococcus agalactiae*) in herds, analyse the risk factors and spatial distribution for these pathogens and occurrence of antibiotic residues in milk, evaluate antimicrobial resistance pattern of mastitis pathogens and structure a database to store the information obtained for performed epidemiological studies. Two hundred fifty dairy farms will be randomly selected from central region of the state using the database of Emater Rondonia. An epidemiological questionnaire will be applied and geographical coordinates obtained in these selected farms. The samples of bulk tank milk will be collected for microbiological diagnosis, somatic cell counting and detection of antibiotic residues. Ten to fifteen positive herds in epidemiological study will be selected to evaluate the antimicrobial resistance pattern of isolates from mastitis. As a strategy for improving milk quality in herds and to suit milk parameters to the current legislation, it is intended to present technologies for the prevention and control of mastitis in four Technology Reference Units and assess viability by monitoring the hygienic-sanitary (somatic cell and total bacterial count) and financial indicators. It is expected that the findings will guide the selection of the best control strategies and support public policy focused on milk quality improvement throughout the state.

Key-words: contagious mastitis, epidemiological survey, control program

Embrapa project number: Submitted to Embrapa - Edital 01/2012, Macroprogram 3

EPIDEMIOLOGICAL ASPECTS ASSOCIATED WITH CONTAGIOUS MASTITIS IN DAIRY HERDS FROM CENTRAL REGION OF RONDONIA STATE, BRAZIL

Juliana Alves Dias[1], Guilherme Nunes de Souza[2], Maria Aparecida Paiva Brito[2], Marcio Roberto da Silva[2], Fernanda Carolina Ferreira[1], Leonardo Ventura de Araújo[1]

[1]Embrapa – Centro de Pesquisas Agroflorestais – Rondônia, Porto Velho, Brasil
[2]Embrapa – Centro Nacional de Pesquisa em Gado de Leite– Minas Gerais, Juiz de Fora, Brasil

INTRODUCTION

Bovine mastitis is the most prevalent and expensive disease on a dairy farm. Knowledge of the prevalence and distribution of mastitis pathogens is critical to the prevention of the disease. Considering the socioeconomic importance of dairy farming to the state of Rondonia and the impact of intramammary infections in milk production and quality, it is proposed to carry out epidemiological studies concerning mastitis in dairy herds of state.

OBJECTIVES

- Estimate the prevalence of *Staphylococcus aureus* and *Streptococcus agalactiae* in bulk tank milk
- Estimate the occurrence of antibiotic residues in bulk tank milk
- Analyse the risk factors and spatial distribution for these pathogens and occurence of antibiotics residues
- Evaluate antimicrobial resistance pattern of mastitis pathogens
- Structure a database to store the information obtained for performed epidemiological studies

MATERIAL AND METHODS

1. *Study population*

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- 18.300 herds / 1.300.000 animals (IBGE, 2010)

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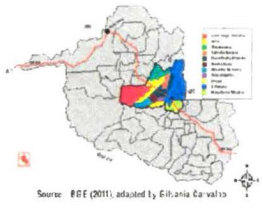

Source: IBGE (2011), adapted by Fabiana Carvalho

2. *Samples and data collection*

250 herds will be random selected of Emater RO database
In each selected farm will be obtained:

- Bulk tank milk sample
- Epidemiological questionnaire

Geographical coordinates

3. *Diagnosis*

Bulk tank milk *n= 250 herds* → Microbiological analysis; Somatic cell counting; Detection of antibiotics residues

Individual samples *n= 10 15 herds* → Antimicrobial resistance pattern of isolates from mastitis

4. *Data Analysis*

Epiinfo Windows 3.5.1.
ArcView 3.1

5. *Technology Reference Units*

Improving milk quality in herds (n=4)
Present technologies for prevention and control of mastitis
Suit milk parameters to the current legislation (IN 62)
Monitoring sanitary-higienic and finantial indicators

EXPECTED RESULTS

It is expected that the findings will guide the selection of the best control strategies and support public policy focused on milk quality improvement throughout the state.

INFORMATION

Project Purpose sent to Embrapa – Edictal 01/2012, Macroprogram 3. Approved with adjusts in july, 24.

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