

Annex. Survey on veterinary advise and health management to estimate differences depending on veterinary professional structure in bovine dairy farms from S. Miguel Island (Azores).

**Questionnaire
2020/2021**

Date: ____/____/____

The following questionnaire is part of a survey, within the scope of my Master's Dissertation in Veterinary Medicine, which aims to understand the health management and know the principals' problems affecting São Miguel's dairy farms.

In the following questions, please sign the answers with a cross (X). In case of affirmative answers, follows a scale of 1 to 5. One (1) when applicable to a few farms, and five (5) when applicable to all farms. Please follow this scale as well on tables 1 and 3.

Thank you for your collaboration.

☐ **Personal Information (optional):**

- Name: _____
- E-mail: _____
- Phone Number: _____
- Company: _____

☐ **Veterinary Experience:**

- How many years have you been working in dairy farms of São Miguel Island? _____
- Is there any farm whose clinical work was your practice solely responsible?
 - Yes___ No___
 - If yes, how many? _____
- Services provided:
 - Individual Medicine: Yes___ No___
 - Zoosanitary procedures: Yes___ No___
 - Herd reproduction: Yes___ No___
 - Herd nutrition: Yes___ No___
 - Herd milk quality: Yes___ No___
 - Another: Yes___ No___
 - If yes, which? _____

☐ **Health Plans and Ambulatory Clinics:**

- Do you normally apply health plans on the dairy farms you usually work on?

1	2	3	4	5

 - Yes___ No___

- If yes, what aspects do these plans cover?

- Approached aspects in health plans:

Questionnaire 1: Of the following topics, which do you usually advice your clients, in order to control the existing problems?

Plans	1	2	3	4	5
Adequate milking practices					
Mastitis control (complete)					
Breeding assessment (AI/Sires)					
Fertility					
Postpartum management					
Lameness					
Calf management					
Heifer management					
Dry cow management					
Nutrition					
Biosecurity					
Parasite control					
Vaccination					
Another					

Abbreviation: AI- Artificial insemination

- Veterinarian procedures performed by practitioners:

Questionnaire 2: In the past 12 to 18 months, did you perform any of the following procedures in dairy farms? If yes, please indicate on average, the number of interventions.

Procedures	N° of interventions			
	<10	10-30	30-50	>50
Digit amputation				
Trimming				
Abortion pathogens diagnosis (laboratory)				
Fecal samples for parasitology analyses				
Serological study (specific pathogens)				
Brucellosis surveillance				
Tuberculosis surveillance				
Monitoring BVDV				
Monitoring IBR				
Monitoring paratuberculosis				
Monitoring leptospirosis				
BRD (laboratory diagnosis)				
Postpartum (puerperal) disease management				
Castration (males)				
Cesarian				
Dehorning				
RDA surgery				
LDA surgery				
Eye enucleation				
Excision of eyelid tumors				
Routine ultrasound scanner reproductive examination				
Pregnancy diagnosis				
Dystocia/calving assistance				
Photosensitization				
Necropsies				
Intestinal torsion				
Uterine torsion				
Abomasal ulceration				
Body condition scoring				
Blood monitoring for minerals				
Mastitis control				
Milk quality control				

Abbreviations: BVDV, bovine viral diarrhea virus; IBR, infectious bovine rhinotracheitis; BRD, bovine respiratory disease; RDA, right displacement abomasum; LDA, left displacement abomasum.

- List of main problems or diseases:

Questionnaire 3: From your point of view, what are the main problems that have affected or are still affecting dairy farms of São Miguel Island.

Problems	1	2	3	4	5
Pneumonia (calves)					
Diarrhea (calves)					
Calves/heifers poor management					
Umbilical alterations and infections					
Meningitis					
Congenital defects					
Mastitis (lactation)					
Mastitis (dry cows)					
Diarrhea (adult cows)					
Ketosis					
Acidosis					
Displacement abomasum					
Poor fertility (overall)					
Abortion					
Retained placenta					
Repeat breeder's					
IBR/BVDV					
Paratuberculosis					
Clostridial diseases					
Pneumonia (heifers and cows)					
Lameness					
Poor dry cow management					
Toxins (fungal/vegetal)					
Photosensitization					
Parasitism					
Sudden death					
Poor nutrition (low BCS)					
Mineral/vitamins deficiency					
Hypomagnesemia					

Abbreviations: IBR, infectious bovine rhinotracheitis; BVDV, bovine viral diarrhea virus; BCS, body condition score.

- Do you consider that farms take the necessary measures to avoid or reduce those problems?

○ Yes___ No___

1	2	3	4	5

- Do you consider that farmers make an appropriate and thoughtful use of antimicrobials?

○ Yes___ No___

1	2	3	4	5

- The farms to which you provide services, practice transhumance (seasonal movement of animal) using public roads?

○ Yes___ No___

1	2	3	4	5

☐ Mastitis Control

- Do you usually implement mastitis control programs in dairy farms?

○ Yes___ No___

1	2	3	4	5

- If yes, what it consists of?

- Do you consider that farmers adopt good milking practices?

○ Yes___ No___

1	2	3	4	5

- And correct hygiene practices?

○ Yes___ No___

1	2	3	4	5

- Do you consider that farmers correctly apply drying protocols to the cows?

○ Yes___ No___

1	2	3	4	5

☐ **Biosecurity and hygiene in farms**

- Do you consider that farms adopt appropriate biosecurity and hygiene measures?

○ Yes___ No___

1	2	3	4	5

- Individual clothing is provided by farms, when visiting them?

○ Yes___ No___

1	2	3	4	5

- In your opinion, what farmers should do, to improve biosecurity in their farms?

☐ **Prevention**

- Do you consider that farms take the necessary preventive measures to decrease or avoid the appearance of diseases?

○ Yes___ No___

1	2	3	4	5

- In general, do you consider that the adopted measures are adequate?

○ Yes___No___

1	2	3	4	5

- Considers that farms should invest more in preventive medicine?

○ Yes___ No___

- List of preventive measures:

Questionnaire 4: Considering the principal diseases that are affecting São Miguel Island dairy farms, from the following preventive measures; which one/s do you consider essential, to decrease and control those diseases?

Regular nutritional assessment	
Regular reproductive assessment	
IBR / BVD vaccination	
Regular postpartum assessment	
Respiratory diseases vaccination	
Vaccination to prevent calves' diarrhea	
Improving dry cow management	
Improving milking procedures	
Improving facilities	
Regular blood sampling	
Clostridial vaccination	
Regular deworming	
Mineral and vitamin supplements	
Mastitis vaccination	
Footbaths	
Fecal sampling	

Abbreviations: IBR- Infectious bovine rhinotracheitis; BVD- Bovine viral diarrhea virus

☐ **Further recommendations**

- At the present, do you consider that the work performed by veterinarians adequate to the needs of the farmers?
o Yes___ No___
- Future guidelines for farmers and for Azorean livestock sector:

Questionnaire 5: In what should dairy farms focus and invest, in order to reduce their problems, improving productivity and yield?

Collaboration with veterinarians and related specialized technicians	
Continuous education and activity of existing workers	
Health management improvement	
Improvement of facilities	
Biosecurity improvement of dairy farms	
Other	

Comments/Recommendations:

Thank you for your collaboration!