

**Questionnaire for the research on perception of farmers about Endometritis
prevention and control measures for zero-grazed dairy cows on smallholder farms
in Rwanda**

Dear Sir/Madam,

The above mentioned study is led by Mr. Pascal Nyabinwa from Egerton University-Njoro Campus, Kenya. Your information and experiences will be used solely for the academic purpose(s) and will remain confidential. The interview will take approximately one hour and your participation is cornerstone to the success of this study. We are kindly asking for your consent to be part of the study.

Farmer consent obtained / ___ / 1. Yes 2. No

Name of participant _____ Signature _____

Date / ___ / ___ / ___ / ___ / ___ / Thank you.

Farm No. / _____ /

Questionnaire No. / _____ /

Date (dd/mm/yy) / ___ / ___ / ___ /

Enumerator name / _____ / Enumerator Code / ___ /

Enumerator contact / _____ /

Reviewed/supervised by / _____ /

SECTION A: General information on farmer and farm management

A.1. Information on farmer

1. Respondent's name / _____ /
2. Tel. number / _____ /
3. Gender of the respondent / ___ / 1 = Male 2 = Female
4. Age of the respondent / _____ / years
5. Household size (persons) / _____ /
6. Category in national wealth ranking system (Ubudehe) / _____ /
7. Education level / ___ / 1 = No schooling 2 = Primary school 3 = Secondary school 4 = University
5 = Other (specify) / _____ /
8. Dairy farming experience in years / _____ /
9. Farmer's location (i) Village / _____ / (ii) Cell / _____ /
(iii) Sector / _____ / (iv) GPS coordinates: S / _____ /
E / _____ /

A.2. Information on farm management

10. Population (number) of cattle kept on the farm by genotypes

1 = Indigenous cattle / ___ /, 2 = Dairy crossbreeds / ___ /, 3 Dairy pure breeds / ___ /

11. What total land size do you farm now in acres? / _____ /

12. Herd records keeping / _____ / 1 = Complete, 2 = Incomplete, 3 = Not practiced

13. Breeding service used on the farm / _____ / 1 = Artificial Insemination Service, 2 = Bull Service, 3 = Both

14. Breeding service cost (\$), Artificial insemination service / ___ /, Bull service / ___ / (\$1 = Rwf 920)

15. Source of animal health services / ___ / 1 = Veterinary, 2 = Community-based animal health workers, 3 = Local traditional herbalists

16. Do you cut-and-carry fodder and crop residues to your animals? / _____ / 1 = Yes, 2 = No

17. Housing floor types / ___ / 1 = Concrete, 2 = Wooden, 3 = Earthen

18. Type of cattle shed / ___ / 1 = with a roof, 2 = Without a roof

19. Do you use bedding materials in cowshed? / ___ / 1 = Yes, 2 = No

If Yes, indicate which bedding materials are used / _____ / 1 = Sand, 2 = natural green grasses, 3 = corn, 4 = wood shaving, 5 = leftover or waste feeds from feeding troughs, 6 = hay, 7 = Sawdust, 8 = straw

20. Frequency of removing any soiled or damp bedding before adding fresh bedding materials / ___ / 1 = Daily basis, 2 = Once per week, 3 = Twice per week, 4 = Once per month , 5 = Twice per month, 6 = Other (specify)

SECTION B: Effectiveness of management interventions for endometritis in smallholder zero-grazed dairy farms in Rwanda

B.1. Farmer perception of endometritis signs in cows in a herd

Endometritis is a postpartum disease characterized by an inflammation of the uterine endometrium 21-90 days postpartum period. According to its signs: (i) white or whitish-yellow mucopurulent vaginal discharge comes out when the animal lies down, urinates or defecates and visible externally on the tail, perineum and vulva; (ii) mucopurulent discharge at the time of oestrus, (iii) repeat breeding and (iv) failure to conception



Did you observe such signs in cows in a herd for the past one year? / ___ /
 1 = yes, 2 = no

B.2. Farmer perceived effective management intervention for endometritis among zero-grazed dairy cows on smallholder farms

For each best-worst scaling choice card (BWSCC1), please pick the most effective and the least effective management interventions for endometritis prevention and control on dairy farms.

BWSCC-1

MIs codes	Management interventions	Most effective	Least effective
7	Consult ANHS provider about the treatment of endometritis positive case	<input type="checkbox"/>	<input type="checkbox"/>
12	Maintain clean transition cow housing	<input type="checkbox"/>	<input type="checkbox"/>
1	Avoid equipment-sharing between cows into the farm	<input type="checkbox"/>	<input type="checkbox"/>
5	Avoid sharing or hiring breeding bull	<input type="checkbox"/>	<input type="checkbox"/>
20	Wash the hands and udder before each milking	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-2

MIs codes	Management interventions	Most effective	Least effective
16	Remove fetal membranes immediately after passing	<input type="checkbox"/>	<input type="checkbox"/>
9	Disinfect equipment used in calving assistance before and after use	<input type="checkbox"/>	<input type="checkbox"/>
8	Cull of persistently endometritis positive cows	<input type="checkbox"/>	<input type="checkbox"/>
13	Maintain regular contact with ANHS provider for advisory support on endometritis prevention in dairy farm	<input type="checkbox"/>	<input type="checkbox"/>
3	Avoid housing fresh cows with diseased cows or those with chronic illnesses such as mastitis	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-3

MI codes	Management interventions	Most effective	Least effective
2	Avoid equipment-sharing with neighbouring farms	<input type="checkbox"/>	<input type="checkbox"/>
19	Use a sexed semen during artificial insemination service	<input type="checkbox"/>	<input type="checkbox"/>
6	Consult ANHS provider about the treatment and prevention of mastitis and metabolic diseases	<input type="checkbox"/>	<input type="checkbox"/>
15	Select sires based on low percent stillbirths by referring to sires catalogue	<input type="checkbox"/>	<input type="checkbox"/>
10	Keep cows in a clean and dry shed	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-4

MI codes	Management interventions	Most effective	Least effective
18	Use an artificial insemination service	<input type="checkbox"/>	<input type="checkbox"/>
4	Avoid off-farm bedding materials and maintain adequate bedding materials per cow	<input type="checkbox"/>	<input type="checkbox"/>
14	Select sires based on calving ease by referring to dairy sires catalogue	<input type="checkbox"/>	<input type="checkbox"/>
11	Maintain adequate feeding per cow	<input type="checkbox"/>	<input type="checkbox"/>
17	Use gloves during calving assistance	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-5

MI codes	Management interventions	Most effective	Least effective
1	Avoid equipment-sharing between cows into the farm	<input type="checkbox"/>	<input type="checkbox"/>
13	Maintain regular contact with ANHS provider for advisory support on endometritis prevention in dairy farm	<input type="checkbox"/>	<input type="checkbox"/>
19	Use a sexed semen during artificial insemination service	<input type="checkbox"/>	<input type="checkbox"/>
11	Maintain adequate feeding per cow	<input type="checkbox"/>	<input type="checkbox"/>
16	Remove fetal membranes immediately after passing	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-6

MIs codes	Management interventions	Most effective	Least effective
10	Keep cows in a clean and dry shed	<input type="checkbox"/>	<input type="checkbox"/>
8	Cull of persistently endometritis positive cows	<input type="checkbox"/>	<input type="checkbox"/>
20	Wash the hands and udder before each milking	<input type="checkbox"/>	<input type="checkbox"/>
17	Use gloves during calving assistance	<input type="checkbox"/>	<input type="checkbox"/>
3	Avoid housing fresh cows with diseased cows or those with chronic illnesses such as mastitis	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-7

MIs codes	Management interventions	Most effective	Least effective
18	Use an artificial insemination service	<input type="checkbox"/>	<input type="checkbox"/>
2	Avoid equipment-sharing with neighbouring farms	<input type="checkbox"/>	<input type="checkbox"/>
5	Avoid sharing or hiring breeding bull	<input type="checkbox"/>	<input type="checkbox"/>
9	Disinfect equipment used in calving assistance before and after use	<input type="checkbox"/>	<input type="checkbox"/>
15	Select sires based on low percent stillbirths by referring to sires catalogue	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-8

MIs codes	Management interventions	Most effective	Least effective
4	Avoid off-farm bedding materials and maintain adequate bedding materials per cow	<input type="checkbox"/>	<input type="checkbox"/>
12	Maintain clean transition cow housing	<input type="checkbox"/>	<input type="checkbox"/>
6	Consult ANHS provider about the treatment and prevention of mastitis and metabolic diseases	<input type="checkbox"/>	<input type="checkbox"/>
7	Consult ANHS provider about the treatment of endometritis positive case	<input type="checkbox"/>	<input type="checkbox"/>
14	Select sires based on calving ease by referring to dairy sires catalogue	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-9

MIs codes	Management interventions	Most effective	Least effective
13	Maintain regular contact with ANHS provider for advisory support on endometritis prevention in dairy farm	<input type="checkbox"/>	<input type="checkbox"/>
10	Keep cows in a clean and dry shed	<input type="checkbox"/>	<input type="checkbox"/>
12	Maintain clean transition cow housing	<input type="checkbox"/>	<input type="checkbox"/>
18	Use an artificial insemination service	<input type="checkbox"/>	<input type="checkbox"/>
6	Consult ANHS provider about the treatment and prevention of mastitis and metabolic diseases	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-10

MIs codes	Management interventions	Most effective	Least effective
8	Cull of persistently endometritis positive cows	<input type="checkbox"/>	<input type="checkbox"/>
11	Maintain adequate feeding per cow	<input type="checkbox"/>	<input type="checkbox"/>
7	Consult ANHS provider about the treatment of endometritis positive case	<input type="checkbox"/>	<input type="checkbox"/>
15	Select sires based on low percent stillbirths by referring to sires catalogue	<input type="checkbox"/>	<input type="checkbox"/>
17	Use gloves during calving assistance	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-11

MIs codes	Management interventions	Most effective	Least effective
4	Avoid off-farm bedding materials and maintain adequate bedding materials per cow	<input type="checkbox"/>	<input type="checkbox"/>
20	Wash the hands and udder before each milking	<input type="checkbox"/>	<input type="checkbox"/>
16	Remove fetal membranes immediately after passing	<input type="checkbox"/>	<input type="checkbox"/>
2	Avoid equipment-sharing with neighbouring farms	<input type="checkbox"/>	<input type="checkbox"/>
1	Avoid equipment-sharing between cows into the farm	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-12

MI codes	Management interventions	Most effective	Least effective
19	Use a sexed semen during artificial insemination service	<input type="checkbox"/>	<input type="checkbox"/>
9	Disinfect equipment used in calving assistance before and after use	<input type="checkbox"/>	<input type="checkbox"/>
14	Select sires based on calving ease by referring to dairy sires catalogue	<input type="checkbox"/>	<input type="checkbox"/>
3	Avoid housing fresh cows with diseased cows or those with chronic illnesses such as mastitis	<input type="checkbox"/>	<input type="checkbox"/>
5	Avoid sharing or hiring breeding bull	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-13

MI codes	Management interventions	Most effective	Least effective
12	Maintain clean transition cow housing	<input type="checkbox"/>	<input type="checkbox"/>
11	Maintain adequate feeding per cow	<input type="checkbox"/>	<input type="checkbox"/>
2	Avoid equipment-sharing with neighbouring farms	<input type="checkbox"/>	<input type="checkbox"/>
3	Avoid housing fresh cows with diseased cows or those with chronic illnesses such as mastitis	<input type="checkbox"/>	<input type="checkbox"/>
15	Select sires based on low percent stillbirths by referring to sires catalogue	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-14

MI codes	Management interventions	Most effective	Least effective
6	Consult ANHS provider about the treatment and prevention of mastitis and metabolic diseases	<input type="checkbox"/>	<input type="checkbox"/>
9	Disinfect equipment used in calving assistance before and after use	<input type="checkbox"/>	<input type="checkbox"/>
17	Use gloves during calving assistance	<input type="checkbox"/>	<input type="checkbox"/>
1	Avoid equipment-sharing between cows into the farm	<input type="checkbox"/>	<input type="checkbox"/>
14	Select sires based on calving ease by referring to dairy sires catalogue	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-15

MI codes	Management interventions	Most effective	Least effective
13	Maintain regular contact with ANHS provider for advisory support on endometritis prevention in dairy farm	<input type="checkbox"/>	<input type="checkbox"/>
5	Avoid sharing or hiring breeding bull	<input type="checkbox"/>	<input type="checkbox"/>
4	Avoid off-farm bedding materials and maintain adequate bedding materials per cow	<input type="checkbox"/>	<input type="checkbox"/>
8	Cull of persistently endometritis positive cows	<input type="checkbox"/>	<input type="checkbox"/>
19	Use a sexed semen during artificial insemination service	<input type="checkbox"/>	<input type="checkbox"/>

BWSCC-16

MI codes	Management interventions	Most effective	Least effective
10	Keep cows in a clean and dry shed	<input type="checkbox"/>	<input type="checkbox"/>
16	Remove fetal membranes immediately after passing	<input type="checkbox"/>	<input type="checkbox"/>
7	Consult ANHS provider about the treatment of endometritis positive case	<input type="checkbox"/>	<input type="checkbox"/>
18	Use an artificial insemination service	<input type="checkbox"/>	<input type="checkbox"/>
20	Wash the hands and udder before each milking	<input type="checkbox"/>	<input type="checkbox"/>

Thank you for your participation.