Evaluate your Rearing Strategies

An adapted advisory tool to evaluate your calf and heifer management strategies

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Warning

This calf and heifer management advisory tool is based on actual scientific knowledge. Its utilization remains under the responsibility of the reader. Some information might have evolved since the elaboration and the publication of this tool and users are encouraged to verify the exactitude of the information prior to its application.

It is not the objective of the present tool to propose a single and unique rearing approach. This advisory tool is flexible and can be adapted to different situations. It reflects a consensus between the scientific researchers who elaborated this project, the dairy experts and the dairy producers consulted.

The scoring system elaborated to evaluate the rearing strategies does not aim at ranking producers. Its purpose is to help producers to be aware of the importance of calf and heifer management, to evaluate risky strategies and to trigger exchanges between the producers and experts working with them.

Validation of this tool by advisors from the dairy industry has been made possible by the collaboration from Valacta, the Département des sciences animales (Université Laval), the Faculté de Médecine Vétérinaire (Université de Montréal), the Association des Médecins Vétérinaires Praticiens du Québec, the Centre d'Insémination Artificielle du Québec, Semex Alliance, the Conseil Québécois des Races Laitières, the Association Québécoise des Industries de Nutrition Animale et Céréalière and the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec.

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Presentation of the Evaluation Tool

This evaluation tool was developed as part of an on-farm intervention project which took place in 2007-2008. Its different components have been tested in 28 Quebec dairy herds in the summer of 2008 and were validated by 26 experts from several disciplines of the dairy industry (dairy technicians, technical and nutrition advisors, veterinarians, genetic advisors as well as organic dairy production specialists) in the summer of 2009. Producers and experts involved in this project actively participated to the improvement of this tool. Overall, they estimated it was an effective and useful tool to evaluate rearing strategies and to help dairy producers to improve calf and heifer management in their herd. It is an excellent tool which could be used by various experts (advisors, veterinarians, others) as part of their intervention with dairy producers.

The advisory tool is built around 10 key elements of calf and heifer management, and organized as follows:

1. A “Management Survey” which allows to establish an initial contact with the producer and to evaluate his rearing strategy.

2. An “On-Farm Measurement” document which allows to take a look at the buildings where calves and heifers are housed and to get an idea of the rearing environment. A picture chart is attached to the survey to facilitate data collection (Appendix 1).

3. An “Evaluation Report” intended for the producer which allows discussing the results, highlighting strengths of the producer’s rearing strategy as well as aspects which need improvement.

These three documents provide an overview of the producer’s calf and heifer management strategies which can then be evaluated. In order to facilitate the use of the tool, two other documents which were developed during the on-farm intervention project are available in this version. These documents are complementary to the advisory tool:

4. An “Instruction Sheet for Colostrum Collection, Freezing and Thawing” (Appendix 3) describes an efficient on-farm technique for high-quality colostrum reserves.

5. A “Score Explanation” document (Appendix 4) ensures to the user of the tool a proper understanding of the choices made by the research team when attributing specific scores to each of the key elements of the tool. These choices were validated by a team of experts from various disciplines of the dairy industry (nutritionists, comfort and management specialists, veterinarians, producers) and include only elements for which scientific references were available for validation.

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Management Survey

This document enables the observer **to record data during the initial on-farm interview** with the producer.

It is structured around 10 critical areas of calf and heifer management. The “Score” section is completed by the observer at a later stage and transferred to the document entitled “Evaluation Report” which is intended for the producer.

Farm : _____

Date : _____

Observer : _____

Time started: _____

Time completed: _____

This project was financially supported by Novalait’s pilot-farm network program.

Version of March 26th 2010

1. Calving Management

1.1 Calving area

Q-1

Where do calvings mainly take place?
(Select one or more and indicate the percentage)

A. Individual pen (in the barn or on pasture): ☐ %

B. A specially adapted calving stall: ☐

C. Calving pen with several cows: ☐ %

D. Pasture (no pen): ☐ %

E. Regular tied stall with covered scrape alley: ☐ %

F. Regular tie stall: ☐ %

G. Regular free stall: ☐ %

Q-1

Main place
(Approximately 75%)

A	30
B, C or D	20
E	5
F or G	0

Q-2

Which option corresponds best to the management of your calving area ?

A. Bedding is always changed between calvings.

B. Bedding is not systematically changed between calvings, but new bedding is added AND placenta and excretions are removed.

C. Bedding is not systematically changed between calvings and no new bedding is added but placenta and excretions are removed.

D. No particular calving area cleaning strategy.

Q-2

A	12
B	4
C	2
D	0

Q-3

Between 2 calvings, when you clean the bedding from the calving area, do you wash* (soap) or disinfect (disinfectant) the calving area?

*Washing includes the use of sap and disinfecting includes the use of a disinfectant, whereas cleaning only implies water.

Yes ☐ No ☐

Q-3

Yes	2
No	0

Q-4

Do you use the calving pen or stall for sick cows?

A. Never

B. Occasionally but the stall / pen is washed (soap) or disinfected (disinfectant) prior to the admission of a new cow.

C. Occasionally, with no special cleaning or disinfection.

Q-4

A	8
B	6
C	0

1.2 Calving Monitoring

Q-5

On average, how often is the calving area checked between the morning and the evening milking?
(Includes observations by an individual or by camera)

_____ times

Q-5

3 times or more	18
Twice	12
Once	6
Never	0

Q-6

On average, how often is the calving area checked between the evening and the morning milkings? (Includes observations by an individual or by camera)

_____ times

Q-6

3 times or more	17
Twice	12
Once	6
Never	0

Q-7

Do you use calving monitoring cameras?

Yes ☐ No ☐

Q-7

Verification

2. Newborn Calf Care

2.1 Umbilicus Disinfection

Q-8

When does umbilicus disinfection take place?

A. Within 2 hours after birth

B. 2 to 8 hours after birth

C. Never

Q-8

A	8
B	6
C	0

Q-9

Which product is used for umbilicus disinfection?

Product name: _____

Concentration: _____

Q-9

Verification

2.2 Care to Newborn Calves

2.2.1 Calf stimulation at birth

Q-10

Is calf vigour evaluated at birth?
(weak and non-vigorous calf: unable to stand, breathing problems, no suckling reflex, etc.)

Yes ☐ No ☐

Q-10	
Yes	1
No	0

Q-11

Are nose and mouth secretions removed with a clean towel at birth?

Yes ☐ No ☐

Q-11	
Yes	1
No	0

Q-12

Are weak calves stimulated with a cold (clean) shower or by manual stimulation at birth?

Yes ☐ No ☐

Q-12	
Yes	1
No	0

Q-13

Are newborn calves suspended by their rear legs to facilitate cleaning of pulmonary secretions?

Yes ☐ No ☐

Q-13

If Yes, score for Q-10, Q-11 and Q-12 must be **0**.

2.2.2 Drying of the Newborn Calf

Q-14

In the minutes following birth, how do you dry the calf?

A. The calf is brought in front of its mother to be licked.

B. The calf is dried with a clean towel.

C. The calf is dried with straw.

D. No measure is taken.

Q-14	
A or B	3
C	1
D	0

2.2.3 Comfort of the newborn calf

Q-15

Is the calf placed on abundant bedding within hours following birth?

Yes ☐ No ☐

Q-15	
Yes	3
No	0

Q-16

Is the newborn calf placed in an area exempt of draughts?

Yes ☐ No ☐

Q-16	
Yes	3
No	0

2.2.4 Biosecurity

Q-17

Are physical contacts with the newborn calf limited to the mother for the first 48h after birth (No physical contact with other animals)?

Yes ☐ No ☐

Q-17	
Yes	3
No	0

2.3 Identification

Q-18

How soon after calving are calves (males and females) identified?

_____ days

Q-18	
Day 1	20
Day 2 to 7	10
After day 7	0

2.4 Painful Procedures

Q-19

Have you ever discussed dehorning (method, age, pain management) with your veterinarian?

Yes ☐ No ☐

Q-19	
Yes	6
No	0

Q-20

Is there a standard operating procedure (SOP) for dehorning, written and available to all members of the farm staff and discussed with your veterinary?

Yes ☐ No ☐

Q-20	
Yes	7
No	0

Q-21

How soon after birth are calves dehorned?

_____ weeks

Q-21	
< 3 weeks	12
3 to 8 weeks	6
8-12 weeks	3
≥ 12 weeks	0

Q-22

Which method is used for dehorning?

A. Chemical (caustic paste or stick, calcium chloride injections)

B. Hot metal (electric dehorner, hot iron dehorner, etc.)

C. Surgical (Gouge, Barnes type, dehorning spoon or tube)

D. Dehorning saw

Q-22

Verification

Q-23

Do you use an analgesic, an anaesthetic, a sedative or a combination of these for dehorning?

Yes ☐ No ☐

Product name : _____

Q-23

Yes	7
No	0

Q-24

Do you amputate (cut off) your heifers' tails?

Yes☐ No ☐

Q-24

Yes	0
No	13

3. Colostrum Management

3.1 Collection and Feeding Method

Q-25

Which method is used to feed colostrum to the calves for the first feeding?

A. Staff provides colostrum to the calf in a pail

B. Staff provides colostrum to the calf in a bottle fitted with a nipple

C. Staff provides colostrum to the calf by an oesophageal feeder

D. The calf is left with its dam; no staff intervention

E. The calf is left with its dam with staff intervention to ensure adequate suckling

Q-25

A, B or C	11
D or E	0

Q-26

Which hygiene measures do you apply for colostrum collection?

A. Hands are washed prior to milking.

B. Gloves are weared during milking.

C. The cow's teats are cleaned prior to milking.

D. The bucket used has been cleaned with soap prior to milking.

E. Colostrum is rapidly stored in a refrigerator if there is a delay between milking and feeding to the calf.

F. None of the above

Q-26	
A + B + C + D + E	5
F	0

Q-27

If calves do not drink a sufficient quantity of colostrum spontaneously (< 4 litres for large size breeds and < 3 litres for small size breeds), do you...

... use an oesophageal feeder?

Yes ☐ No ☐

... control colostrum quality with a colostrometer to ensure excellent quality colostrum is provided?

Yes ☐ No ☐

Q-27	
Yes (to one of the two questions)	7
No (to both questions)	0

3.2 Colostrum Intake

Q-28

When is colostrum fed for the first time?

A. Within 2 hours after birth.

B. Within 2 to 6 hours after birth.

C. Within 6 to 12 hours after birth.

D. The following day.

E. Never

Q-28	
A	22
B	12
C, D or E	0

Q-29

What quantity of colostrum is provided at the first feeding?

☐ Litres ☐ Unknown quantity

Q-29

(Large size breeds)

≥ 3 L	11
2-3 L	5
< 2 L	0
Unknown quantity	0

(Small size breeds)

≥ 2 L	11
1.5-2 L	5
< 1.5 L	0
Unknown quantity	0

Q-30

Is a second feeding of colostrum provided within the first 12 hours after birth?

Yes ☐ No ☐

Q-31

What quantity is served at the second feeding?

☐ Litres ☐ Unknown quantity

Q-31

Sum for feedings 1 + 2

(Large size breeds)

≥ 4 L	9
< 4 L	0

(Small size breeds)

≥ 3 L	9
< 3 L	0

Q-32

Is the colostrum provided at first and second feedings always from the first milking?

Yes ☐ No ☐

Q-32

Yes	9
No	0

3.3 Colostrum Storage and Quality and Immunity Transfer Assessment

Q-33

Do you always have sufficient colostrum reserves for 2 calves in the freezer?

Yes ☐ No ☐

Q-33	
Yes	11
No	0

Q-34

How much colostrum do you keep in the freezer?

☐ Litres ☐ Unknown quantity

Q-34
Verification

Q-35

How do you assess colostrum quality?

A. Colostrometer or other precise tool to evaluate immunoglobulin (IgG) concentration in colostrum

B. Visual observation.

C. No evaluation.

D. Other (Specify) : _____

Q-35	
A	6
B, C or D	0

Q-36

Are calf blood samples routinely taken at the farm to evaluate passive immunity transfer (quantity of antibodies)?

Yes ☐ No ☐

Q-36	
Yes	3
No	0

4. Separation from Dam

Q-37

How long do the calf and dam remain together in the same pen?

A. More than one day

B. Approximately one day

C. Approximately half a day (12 hours)

D. Approximately 6 hours

E. Less than two hours

Q-37
Verification

5. Calf Feeding

5.1 Milk Feeding Program

Q-38

How much milk or milk replacer to you provide to calves?

Per day	1st week	Between the 1st week and weeks when milk fed is reduced (gradual weaning)	Week of reduction of milk fed (progression for gradual weaning) before the final day of weaning (milk = 0)
Total milk (Litres)			
Number of daily feedings			

Q-38a

Producer knows quantities

Yes	9
No	0

Q-38b

Quantities between the 1st week and weeks of gradual weaning

(Large size breeds)

≥ 8 L	22
≥ 6 and < 8 L	14
≥ 4 and < 6 L	7
<4	0

(Small size breeds)

≥ 5 L	22
≥ 3.5 and < 5 L	14
≥ 2 and < 3.5 L	7
<2	0

Q-38c

Nomber of feedings per day

Ad libitum	4
3 feedings / day	4
2 feedings / day	1
0 or 1 feeding / day	0

Q-39

Which method do you use to feed milk or milk replacer to calves ?

A. Bottle fitted with a nipple

B. Nipple pail

C. Open pail (No nipple)

D. Automatic delivery system

E. Large nipple bucket

F. Other (Specify) : _____

Q-39

A, B, D or E	4
D	0

5.2 Milk Feed

Q-40

Are unweaned calves fed with...

	Often	Occasionally	Never
Fermented milk			
Unpasteurized commercial milk			
Milk from cows under antibiotic treatment			
Unpasteurized cow's milk during withdrawal period			
Milk replacer			
Other (Specify): _____			

Q-40

Milk from cows under antibiotic treatment or unpasteurized milk from withdrawal period

Never	8
Often or occasionally	0

Q-41

Do you pasteurize milk fed to unweaned calves?

Yes ☐ No ☐

Q-41

Verification

5.3 Acces to water

Q-42

Do unweaned calves have continuous access to water?

Yes ☐ No ☐

Q-42

Yes	6
No	0

Q-43

If yes, on which day after birth are they given access to water?

_____ day

Q-43

Day 1 or 2	5
Day 3 or more	0

5.4 Access to solid feeds

Q-44

Has a feeding plan for unweaned calves been implemented and validated by a qualified nutrition advisor?

Yes ☐ No ☐

Q-44

Yes	9
No	0

Q-45

When are the following feeds incorporated in unweaned calves' feeding program?

	Age (Number of days after birth)
Concentrates	
Dry hay	
Chopped grass silage	
Round bale grass silage	
Corn silage	

Q-45

Producer gives access to concentrates after 7 days

Yes	6
No	0

6. Weaning

6.1 Criteria

Q-46

What is the average age of calves at weaning (weeks)

_____ weeks

Q-46

12 weeks and older	22
10 weeks and older	20
8 weeks and older	18
6 to 8 weeks	9
Before 6 weeks	0

Q-47

What is the concentrate intake level of calves at weaning?

[ ] Kg / day

Q-47	
(Large size breeds)	
≥ 2 kg	33
1.5 kg	30
1 kg	15
< 1 kg	0
(Small size breeds)	
≥ 1.5 kg	33
1 kg	30
0.5 kg	15
< 0.5 kg	0

6.2 Method

Q-48

Are calves weaned...

A. Abruptly.

B. Gradually, by skipping feedings.

C. Gradually, by reducing the quantity of milk or milk replacer.

D. Gradually, by diluting milk or milk replacer in water.

Q-48	
A	0
B, C or D	10

Q-49

If you wean your calves gradually, over how many days does weaning usually take place?

[ ] days

Q-49	
10 days and more	35
5 to 9 days	30
≤ 4 days	0

7. Calf Housing

7.1 Type

Q-50

What type of housing is used for unweaned calves?
(Select one from group A, one from group B and one from group C)

A1. Individual
A2. Group

B1. Outside
B2. Greenhouse
B3. In the barn

C1. Pens with bars (Visual contact allowed)
C2. Pens with solid walls (Visual contact not allowed)
C3. Closed hutch
C4. Opened hutch with chain
C5. Opened hutch with pen
C6. Wooden or metal cage
C7. Individual stalls
C8. Tied to wall
C9. Pen with solid walls and tied to wall
C10. Opened wooden cage with chain
C11. Pen with bars and tied to wall

D. Other (Specify) : _____

Q-50

This information will serve as reference for section 7.2

	A	B	C	Number of calves per housing unit	Number of weeks in housing unit
Housing unit 1					
Housing unit 2					
Housing unit 3					

7.2 Caracteristics

Q-51

How many times per week do you change the bedding In the calves' housing? *(Answer in the table)*

A. At least once per week

B. Once every 2 weeks

C. Once every 4 weeks

D. Less than once per month

E. No bedding

	A	B	C	D	E
Housing unit 1					
Housing unit 2					
Housing unit 3					

Q-51

Verification

Q-52

How many times per week do you add bedding in the calves' housing ? *(Answer in the table)*

A. Twice per week or more

B. Once per week

C. Less than once per week

D.

	A	B	C
Housing unit 1			
Housing unit 2			
Housing unit 3			

Q-52

Lowest score for all housing units

A	5
B	3
C	0

Q-53

Do you change the bedding between calves / groups of calves?

	Yes	No
Housing unit 1		
Housing unit 2		
Housing unit 3		

Q-53

Yes (For all housing units)	5
No	0

Q-54

When you remove bedding from calves' housing units, do you wash (with soap) or disinfect (with a disinfectant)?

	Yes	No
Housing unit 1		
Housing unit 2		
Housing unit 3		

Q-54

Yes 5
(For all housing units)

No 0

Q-55

Have the ventilation system and air quality been verified by a qualified advisor in the last 2 years?

Yes ☐ No ☐

Q-55

Yes 3

No 0

8. Heifer Feeding

8.1 Access to water

(No management measure)

8.2 Availability of solid feeds

Q-56

Are forages fed ad libitum, anticipating 5 to 10% refusals?

Yes ☐ No ☐

Q-56

Yes 10

No 0

Q-57

When do you feed the heifers?

	Hay	Concentrates
1st feeding		
2nd feeding		
3rd feeding		

Q-57

Verification

Q-58

Do you push feed between feedings?

Yes☐ No ☐

If yes, how many times per day ? _____

Q-58
Verification

Q-59

Is there a feeding plan for weaned calves ans heifers that has been recommended by a qualified feeding advisor ...

	Yes	No
... from weaning until 6 months of age?		
... from 6 months until breeding (~15 months)?		
... from 15 months (breeding) and after?		
... as preparation for the first calving?		

Q-59

(Lowest score of housing units)

4 Yes	25
3 Yes + 1 No	18
2 Yes + 2 No	12
1 Yes + 3 No	6
4 No	0

9. Heifer Housing

9.1 Type

Q-60

What type of housing is used for each group of animals?
(Number answers – the same numbers will be used for the remainder of the survey)

	From weaning to 6 months of age	From 7 to 15 months of age (breeding)	15 months and older
Tie stall			
Free stall			
Outdoor group pen			
Indoor pen (individual)			
Indoor pen (group)			
Pasture			
Group hutch with outdoor pen			
Group hutch with indoor pen			
Other (Specify)			

Q-60
This information will serve as reference for section 9.2

Q-61

How many times per week do you change the bedding in the heifers' housing units?

Q-61
Verification

A. At least once per week

B. Once every 2 weeks

C. Once every 4 weeks

D. Less than once per month

E. Not applicable (Animals on pasture)

F. No bedding

	A	B	C	D	E	F
Housing unit 1						
Housing unit 2						
Housing unit 3						
Housing unit 4						
Housing unit 5						
Housing unit 6						
Housing unit 7						
Housing unit 8						

Q-62

How many times per week do you add new bedding in the heifers' housing units? *(Answer in the table)*

A. Twice per week or more often

B. Once per week

C. Less than once per week

D. Not applicable (Animals on pasture)

	A	B	C	D
Housing unit 1				
Housing unit 2				
Housing unit 3				
Housing unit 4				
Housing unit 5				
Housing unit 6				
Housing unit 7				
Housing unit 8				

Q-62
(Lowest score for all housing units)

A	**4**
B	**2**
C	**0**
D	**0**

Q-63

Do you change bedding between heifers / groups?

	Yes	No	Not applicable (Animals on pasture)
Housing unit 1			
Housing unit 2			
Housing unit 3			
Housing unit 4			
Housing unit 5			
Housing unit 6			
Housing unit 7			
Housing unit 8			

Q-63

Yes *(For all housing units)*	4
No	0

Q-64

When you remove bedding from heifers' housing units, do you wash (with soap) or disinfect (with a disinfectant)?

	Yes	No	Not applicable (Animals on pasture)
Housing unit 1			
Housing unit 2			
Housing unit 3			
Housing unit 4			
Housing unit 5			
Housing unit 6			
Housing unit 7			
Housing unit 8			

Q-64

Yes (*For all housing units or animals on pasture*)	4
No	0

Q-65

Have the ventilation system and air quality been verified by a qualified advisor in the last 2 years?

Yes ☐ No ☐

Q-65

Yes	2
No	0

Q-66

Has photoperiod in the heifer housing units been verified by a qualified advisor in the last 2 years?

Yes ☐ No ☐

Q-66

Yes	2
No	0

Q-67

Has light intensity of the post-weaning housing units been verified by a qualified advisor in the last 2 years?

Yes ☐ No ☐

Q-67

Yes	2
No	0

9.3 Pasture

Q-68

Have heifers access to pasture in the summer?

Yes ☐ No ☐

If yes, from how old on? _____

How many weeks per year? _____

Q-68

Yes	6
No	0

Q-69

If heifers are on pasture during the summer...

... do they have access to water within 200m ?
(Source : Les bovins laitiers, CRAAQ 2008, p. 373)

Yes ☐ No ☐

... is there a shaded area or some protection against bad weather in the pasture?

Yes ☐ No ☐

... do they have access to forages or mineral supplements ?

Yes ☐ No ☐

Q-69
If you answered no to one of these questions, count 0 for Q-68

9.4 Adaptation

Q-70

Are heifers provided a period of adaptation of at least 3 weeks to 1 month to the lactating cow housing unit prior to their first calving?

Yes ☐ Non ☐

Q-70	
Yes	7
No	0

10. General Monitoring of Animals

10.1 Mortality and morbidity (Disease)

Q-71

Do you keep a written record of all disease cases (clinical signs and treatments administered) as well as calf and heifer mortality between birth and 1st calving?

Yes ☐ No ☐

Q-71	
Yes	20
No	0

Q-72

Does your record contain the following events?

	Yes	No
Mortalities		
Diarrhea problems		
Problems of the respiratory system		
Umbilicus infections		
Swollen articulations		

Q-72	
5 Yes	10
4 Yes + 1 No	8
3 Yes + 2 No	6
2 Yes + 3 No	4
1 Yes + 4 No	2
4 No	0
No record	0

(if register for Q-71)

Q-73

What is the format of the record ?

A. Electronic support : data entered by producer

B. Electronic support : data entered by technician

C. Paper register

Q-73
Verification

Q-74

Do you have a biosecurity protocol available on the farm on calf and heifer management, written and available to all staff members ?

Yes ☐ No ☐

Q-74	
Yes	10
No	0

10.2 General monitoring of animals

Q-75

Do you monitor growth for all your replacement subjects? (Growth monitoring includes written data.)

Yes ☐ No ☐

Q-75	
Yes	10
No	0

Q-76

At what frequency do you monitor growth of your replacement subjects?

A. Once per month.

B. 6 to 8 times during the rearing period (every 3 to 4 months)

C. 3 to 4 times during the rearing period (every 6 to 8 months)

D. Once or twice during the rearing period

E. Less than once during the rearing period

F. No growth monitoring.

Q-76	
A or B	16
C	12
D	8
E	4
F	0

Q-77

What are the measures taken for growth monitoring ?

A. Body weight

B. Height

C. Body condition score

D. No measure (No growth monitoring)

Q-77	
A + B + C	9
A + B	9
B + C	9
A + C	0
A or B or C or D	0

Q-78

Do you monitor and trim hooves (when necessary) for your replacement heifers?

Yes ☐ No ☐

Q-78	
Yes	10
No	0

Q-79

At what frequency do you monitor / trim your heifers' hooves?

A. Twice or more during the rearing period

B. Once during the rearing period

C. Never

If there is a specific period for hoof verification trimming, please specify? _____

Q-79	
A	5
B	3
C	0

Q-80

At what age are heifers first bred?

A. ≤ 15 months

B. 16 months

C. 17 months

D. ≥ 18 months

Q-80	
A	5
B	3
C	1
D	0

Q-81

Before the first breeding, do you verify weight and height of the heifers to ensure optimal development stage for reproduction?

Yes ☐ No ☐

Q-81	
Yes	5
No	0

Partial Score Calculation

Management Survey

For each critical area, add up the scores obtained for each question with regards to the corresponding good management practices (see tables below).

Transfer your results in the "Evaluation Report".

1. Calving Management

Good practices	Questions	Score obtained for the "Management Survey" section
Use of calving pen on a regular basis	Q-1	/30
Comfort and ergonomic quality of calving pen	No question	
High calving pen cleanliness level	Q-2 + Q-3	/14
Appropriate calving pen management for sick animals	Q-4	/8
High calving monitoring level	Q-5 + Q-6	/35

2. Newborn Calf Care

Good practices	Questions	Score obtained for the "Management Survey" section
Immediate umbilicus disinfection on a regular basis	Q-8	/20
Rigourous care to newborn calves	Q-10 + Q-11 + Q-12 + Q-13 + Q-14 + Q-15 + Q-16 + Q-17	/15
Immediate identification on a regular basis	Q-18	/20
Appropriate painful procedure management	Q-19 + Q-20 + Q-21 + Q-23 + Q-24	/45

3. Colostrum Management

Good practices	Questions	Score obtained for the "Management Survey" section
Not letting calf suckle its dam for the first feeding (monitor intake)	Q-25	/11
Proper hygiene measures for colostrum collection and distribution	Q-26	/5
Ensure adequate immunoglobulin intake (IgG = 200 g)	Q-27	/22
First feeding as soon as possible and within 6 hours after birth	Q-28	/22
Monitoring of quantity ingested at first feeding	Q-29	/11
Feeding at least 4 L (large size breeds) or 3 L (small size breeds) of first milking colostrum within the first 12 hours after birth	Q-31 + Q-32	/18
Routine supply of adequate stocks of frozen colostrum	Q-33	/11
Routine assessment of colostrum quality	Q-35	/6
Routine verification of immunity transfer	Q-36	/3

4. Separation from Dam

No management measure

5. Calf Feeding

Good practices	Questions	Score obtained for the management section
Milk feeding plan followed	Q-38a	/9
Over 8 L (large size breeds) or 5 L (small size breeds) of milk feed per calf per day	Q-38b	/22
Frequency of feedings and use of a nipple	Q-38c + Q-39	/8
Milk of sick cows not used	Q-40	/8
Access to water from the 2nd day after birth on	Q-42 + Q-43	/11
Clean and functional waterers, unrestricted access	No question	
Feeding plan followed	Q-44	/9
Access to concentrates at all times	Q-45	/6
Clean and functional troughs, unrestricted access	No question	

6. Weaning

Good practices	Questions	Score obtained for the management section
Age and concentrate intake adequate for weaning	Q-46 + Q-47	/55
Adoption of a progressive weaning method	Q-48 + Q-49	/45

7. Calf Housing

Good practices	Questions	Score obtained for the management section
Housing unit allows calf to be comfortable	No question	
High cleanliness and adequate quantities of bedding	Q-52 + Q-53 + Q-54	/15
Regular verification of ventilation and air quality	Q-55	/3

8. Heifer Feeding

Good practices	Questions	Score obtained for the management section
Clean and functional waterers, unrestricted access	No question	
Access to forage feed at all times	Q-56	/10
Clean and functional troughs, unrestricted access	No question	
Feeding plan followed	Q-59	/25

9. Heifer Housing

Good practices	Questions	Score obtained for the management section
Housing unit allows calf to be comfortable	No question	
High cleanliness and adequate quantities of bedding	Q-62 + Q-63 + Q-64	/12
Regular verification of ventilation, air quality, photoperiod and light intensity	Q-65 + Q-66 + Q-67	/6
Access to pasture	Q-68 + Q-69	/6
Sufficient adaptation period to lactating cows housing unit	Q-70	/7

10. General Monitoring of Animals

Good practices	Questions	Score obtained for the management section
Adequate recording of mortality and morbidity cases	Q-71 + Q-72	/30
On-farm biosecurity protocol	Q-74	/10
Growth monitoring	Q-75 + Q-76 + Q-77	/35
Hoof monitoring	Q-78 + Q-79	/15
Appropriate breeding management	Q-80 + Q-81	/10

Evaluate your Rearing Strategies

An adapted advisory tool to evaluate your calf and heifer management strategies

On-Farm Measurements

This document enables the observer to collect data during a visit of the housing facilities of the farm.

It is structured around 10 critical areas of calf and heifer management. The “Score” section is completed by the observer at a later stage and transferred to the document entitled “Evaluation Report” which is intended for the producer.

.

Farm : _____

Date : _____

Observer : _____

Time started: _____

Time completed: _____

This project was financially supported by Novalait’s pilot-farm network program.

Version of March 26th 2010

1. Calving

1.1 Calving area

Q-82

What are the dimensions of the calving pen?

☐ **No calving pen in the barn or in the pasture**
(Proceed to the following question)

	Length (m/ft)	Width (m/ft)	Area (m^2/ft^2)
Calving pen 1			
Calving pen 2			
Calving pen 3			
Calving pen 4			

Q-82

Minimum area is 12.5 m^2 (134.5 ft^2) with minimum width of 3.6-4.2 m (11.8-13.8 ft)

(Source: Les bovins laitiers. CRAAQ. 2008. P.213.)

≥ Minimum area	5
< Minimum area	0

Q-83*

Are there any safety hazards (hole in the middle of the pen, high step, metal bar with risk of injury, etc.) in the calving pen?

Yes☐ No ☐

If yes, specify : _____

_____

_____

Q-83

No (For all pen)	5
Yes	0

Q-84*

Is the quantity of bedding used in the calving pen...
(measure only if there is a cow in the calving pen)

A. Very plentiful, floor completely covered with bedding

B. Plentiful, most of the floor covered with bedding although bedding is thin at some places or mat and bedding

C. Scarce, most of floor is visible

D. No bedding

E. No bedding but mat

	A	B	C	D	E
Calving pen 1					
Calving pen 2					
Calving pen 3					
Calving pen 4					

Q-84

Verification
(Quantity of bedding when a cow is present in the calving pen)

Q-85*

How much accumulated manure is there in the calving pen? (measure only if there is a cow in the calving pen)

A. None

B. Little manure and / or visible wet areas

C. Manure free area larger than contaminated area

D. Contaminated area larger than manure-free area

E. Entire area contaminated

Q-85

Verification

(Manure accumulation when a cow is present in the calving pen)

	A	B	C	D	E
Calving pen 1					
Calving pen 2					
Calving pen 3					
Calving pen 4					

Q-86*

What is the cleanliness level in the calving pen environment? (cleanliness of walls, moisture, ...)

A. Very clean

B. Satisfactory

C. Unsatisfactory

Q-86

(Lowest score for all pens)

A	4
B	2
C	0

1.2 Calving Monitoring

(No measurement)

2. Newborn Calf Care

2.1 Umbilicus Disinfection

☐ No umbilicus disinfection.
(Proceed to the following section)

Q-87

What is the name of the product used?

_____

Q-87
Verification

Q-88

Where in the barn is it kept ?

_____

Q-88
Verification

Q-89

Is the bottle clean ?

Yes ☐ No ☐

Q-89
Verification

2.2 Care to Newborn Calves

(No measurement)

2.3 Identification

Q-90

If there are any newborn calves present in the barn on the day of the survey, are they identified?

Yes ☐ No ☐

Q-90
Verification

2.4 Painful Procedures

(Facultative question)

Q-91

Are the products used for pain monitoring during dehorning present in the medicine cabinet?

Yes ☐ No ☐

Q-91
Verification

Procedure		Anaesthetic		Analgesic	
	n/a	n/a	Product name	n/a	Product name
Dehorning					

3. Colostrum Management

3.1 Collection and Feeding Method

Q-92*

What methods are used to feed colostrum, how clean are they and what is their capacity?

Method	Cleanliness[1]	Capacity (L)
Bottle with nipple		
Nipple pail		
Open pail		
Oesophageal feeder		
Other (Specify)		

x

Q-92

(Lowest score for all pens)

Very clean	6
Acceptable	3
Unacceptable	0

3.2 Colostrum Intake

(No measurement)

3.3 Colostrum Storage and Quality and Immunity Transfer Assessment

(Facultative Question)

Q-93

Is there sufficient colostrum stored in the freezer to meet the needs of a calf (Minimum 4 L) ?

Yes ☐ No ☐ Impossible to verify ☐ No storage ☐

Q-93
Verification

(Facultative Question)

Q-94

If yes, what quantity of colostrum is available?

☐ Litres

Q-94
Verification

4. Separation from Dam

(No measurement)

5. Alimentation lactée (pré-sevrage)

5.1 Plan d'alimentation lactée

(Aucune mesure à l'étable)

5.2 Milk Feeding

Q-95*

What methods are used milk and milk replacement feeding to the calves, how clean are they and what is their capacity?
(Answer in table)

A. Bottle with nipple

B. Nipple pail

C. Open pail

D. Automatic delivery system

E. Large nipple bucket

F. Other (specify) : _____

Method	Cleanliness[1]	Capacity (L)
Housing unit ___		
Housing unit ___		
Housing unit ___		

[1] Very clean, Acceptable, unacceptable

Q-95

(Lowest score for all pens)

Very clean	6
Acceptable	3
Unacceptable	0

(Facultative question)

Q-96

If there is an automatic delivery system, is it working properly?
(Ask to the producer to verify its automatic program with him)

Yes ☐ No ☐

Q-96
Verification

5.3 Access to Water

Q-97*

What type of waterers do calves have, what is their cleanliness and accessibility?

A. Pail

B. Paddle or push-button water bowl

C. Automatic waterers

D. None

	Method	Cleanliness[1]	Accessibility[2]
Housing unit ___			
Housing unit ___			
Housing unit ___			

[1] *Very clean, acceptable or unacceptable*
[2] *Easy, difficult, non-existent*

Q-97a
(Cleanliness: lowest score of housing unit)

Very clean	**5**
Acceptable	**3**
Unacceptable/ no waterer	**0**

Q-97b
(Accessibility: lowest score of housing unit)

Easy	**5**
Difficult	**3**
Non-existent	**0**

(Facultative question)

Q-98

In the case of automatic waterers, do they work properly ?

Yes ☐ No ☐ Impossible to verify ☐

Q-98
Verification

5.4 Access to solid feeds

Q-99*

What types of supports are there for forage feeding and what is their cleanliness and accessibility?
(Answer in table)

A. Forage trough

B. On floor

C. Other (Specify) _____

	Support	Cleanliness[1]	Accessibility[2]
Housing unit ___			
Housing unit ___			
Housing unit ___			

[1] *Very clean, acceptable or unacceptable*
[2] *Easy, difficult, non-existent*

Q-99
Verification

Q-100*

What types of feeding supports are there for concentrates and what is their cleanliness and accessibility?
Are there concentrates in the supports?
(Answer in table)

A. Concentrate container
B. On floor
C. Others (Specify): _____

	Support	Presence of concentrates	Cleanliness[1]	Accessibility[2]
Housing unit ___				
Housing unit ___				
Housing unit ___				

[1] Very clean, acceptable or unacceptable
[2] Easy, difficult, non-existent

Q-100a

(*Presence of concentrates in all housing units on the day of the visit for al calves 7 days or older*)

Yes (For all housing units)	6
No	0

Q-100b

(*Cleanliness: lowest score for all housing units*)

Very clean	3
Acceptable	1
Unacceptable	0

Q-100c

(*Accessibility: lowest score for all housing units*)

Easy	3
Difficult	1
Non-existent	0

(Facultative question)

Q-101

If concentrates are distributed automatically, is the distribution system working properly?

Yes ☐ No ☐

Q-101

Verification

6. Weaning

6.1 Criteria

(No measurement)

6.2 Method

(Facultative question)

Q-102

Does the concentrate container hold at last 2 kg per calf?

Yes ☐ No ☐

Q-102

Verification

7. Calf Housing

7.1 Type

Q-103*

What type of housing is used for pre-weaned calves?
(Select one from group A, one from group B and one from group C)
(Answer in Table)

What type of housing is used for unweaned calves?
(Select one from group A, one from group B and one from group C)

A1. Individual
A2. Group

B1. Outside
B2. Greenhouse
B3. In the barn
B4. Nursery

C1. Pens with bars (Visual contact allowed)
C2. Pens with solid walls (Visual contact not allowed)
C3. Closed hutch
C4. Opened hutch with chain
C5. Opened hutch with pen
C6. Wooden or metal cage
C7. Individual stalls
C8. Tied to wall
C9. Pen with solid walls and tied to wall
C10. Opened wooden cage with chain
C11. Pen with bars and tied to wall

D. Other (Specify) : _____

Q-103

This information will serve as reference for section 7.2

	A	B	C	Average age of the calves	Number of calves per housing unit
Housing unit____					
Housing unit____					
Housing unit____					

Q-104

What possibilities are available to calves in their housing units?
(Select comfort possibilities in Table)

	Visual contact	Total physical contact	Room to move around	Room to turn around and lie down[1]	Fewer than 10 individuals per housing unit[2]
Housing unit ___					
Housing unit ___					
Housing unit ___					

[1] Possibility of lying down includes a number of resting spaces equal to the number of animals.
[2] Fewer than 10 individuals per housing unit includes individual housing

Q-104

Final score = sum of scores obtained for all housing units divided by total number of housing units.

Final score Q-104 = ____

5 possibilities	**43**
4 possibilities	**35**
3 possibilities	**27**
2 possibilities	**18**
1 possibility	**9**
No possibility	**0**

7.2 Characteristics

Q-105*

The quantity of bedding used for calves is...
(Place answers in Table)

A. Very plentiful, floor completely covered with bedding

B. Plentiful, most of the floor covered with bedding although bedding is thin at some places or mat and bedding

C. Scarce, most of floor is visible

D. No bedding

E. No bedding but mat

	A	B	C	D	E
Housing unit ___					
Housing unit ___					
Housing unit ___					

Q-105

(Lowest score of housing units)

A or B	**8**
C, D or E	**0**

Q-106*

How much accumulated manure is there in the housing units?
(Place answers in Table)

A. None
B. Little manure and / or visible wet areas
C. Manure-free area larger than contaminated area
D. Contaminated area larger than manure-free area
E. Entire area contaminated

	A	B	C	D	E
Housing unit ___					
Housing unit ___					
Housing unit ___					

Q-106

(Lowest score of housing units)

A	**11**
B or C	**5**
D or E	**0**

Q-107*

What is the cleanliness level in the calf housing environment?
(Cleanliness of walls, humidity, etc.)

A. Very clean
B. Acceptable
C. Unaccetpable

	A	B	C
Housing unit ___			
Housing unit ___			
Housing unit ___			

Q-107

(Lowest score of housing units)

A	**11**
B	**5**
C	**0**

Q-108

What are the dimensions of these housing units?

	Width (m/ft)	Length (m/ft)	Area (m^2/ft^2)	Number of calves	Area / calf (m^2/ft^2)[1]
Housing unit ___					
Housing unit ___					
Housing unit ___					

[1] Minimum resting area for calves 0-2 months of age: 2.2-3.0 m^2/calf (24-32 ft^2/calf)
(Source: Les bovins laitiers. CRAAQ. 2008. Table 5. P. 166.)
This standard applies to individual calf housing units but the same standard is used for group housing units.

Q-108

(Lowest score of housing units)

≥ Minimum area	**9**
< Minimum area	**5**

8. Heifer Feeding

8.1 Access to Water

Q-109*

What type of waterers do heifers have, what is their cleanliness and accessibility

A. Pail
B. Paddle or push-button water bowl
C. Automatic waterer
D. None

	Type	Cleanliness[1]	Accessibility[2]
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			

[1] Very clean, acceptable or unacceptable
[2] Easy, difficult, non-existent

Q-109a

(Cleanliness: Lowest score of housing units)

Very clean	**15**
Acceptable	**8**
Unacceptable/no waterer	**0**

Q-109a

(Accessibility: Lowest score of housing units)

Easy	**15**
Difficult	**8**
Non-existent	**0**

(Facultative question)

Q-110

If waterers are automatic, do they work properly?

Yes ☐ No ☐ Impossible to verify ☐

Q-110
Verification

8.2 Availability of Solid Feeds

Q-111*

What types of supports are there for forage feeding and what is their cleanliness and accessibility?
Is there forage in the supports?
(Answer in table)

A. Forage trough
B. On floor
C. Other (Specify) _____

	Age group	Support	Presence of forages	Cleanliness[1]	Accessibility[2] (Trough space / head)
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					

[1] Very clean, acceptable, unacceptable
[2] ≥ minimum space, < minimum space or non-existent
Minimum length per heifer (simultaneous feeding) if no head locks;
Otherwise, number of head locks ≥ number of animals

12 months and younger: 450 mm head (18 in / head)
1-2 years old: 600 mm / head (24 in / head)
2 years old and older: 700 mm / head (28 in / head)

(Source: Les bovins laitiers. CRAAQ. 2008. Table 4. p. 165.)

Q-111a
(Presence of forage in all housing units on the day of the visit)

Yes (For all housing units)	15
No	0

Q-111b

(Cleanliness: Lowest score of housing units)

Very clean	5
Acceptable	2
Unacceptable	0

Q-111c
(Accessibility: Lowest score of housing units)

≥ Minimum space	5
< Minimum space	2
Non-existent	0

Q-112

What types of supports are there for concentrate feeding and what is their cleanliness and accessibility? (Answer in table)

A. Concentrate trough
B. On floor
C. Other (Specify) _____

	Age group	Support	Cleanliness[1]	Accessibility[2] (Trough space / head)
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				

[1] Very clean, acceptable, unacceptable
[2] ≥ minimum space, < minimum space or non-existent
Minimum trough length per heifer (simultaneous feeding) if no head locks;
Otherwise, number of head locks ≥ number of animals

12 months and younger: 450 mm head (18 in / head)
1-2 years old: 600 mm / head (24 in / head)
2 years old and older: 700 mm / head (28 in / head)

(Source: Les bovins laitiers. CRAAQ. 2008. Table 4. p. 165.)

Q-112a

(Cleanliness: Lowest score of housing units)

Very clean	5
Acceptable	2
Unacceptable	0

Q-112b

(Accessibility: Lowest score of housing units)

≥ Minimum space	5
< Minimum space	2
Non-existent	0

(Facultative question)

Q-113

If concentrates are distributed automatically, does the automatic distributor work properly?

Yes ☐ No ☐

Q-113

Verification

9. Heifer Housing

9.1 Type

Q-114*

What type of housing is used for heifers?
(Number answers, the same numbers will be used for the remainder of the survey)

Q-114
This information will serve as reference for section 9.2

	From weaning to 6 months of age	From 7 to 15 months of age (breeding)	15 months and older
Tie stall			
Free stall			
Outdoor group pen			
Indoor pen (individual)			
Indoor pen (group)			
Pasture			
Outdoor group hutch with pen			
Indoor group hutch with pen			
Other (Specify)			

Q-115

What possibilities are available to heifers in their housing units?
(Select comfort possibilities in table)

	Age group	Visual contact	Total physical contact	Room to move around	Room to turn around and lie down[1]	Fewer than X individuals per housing unit[2]
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						

[1] *Possibility of lying down includes a number of resting spaces equal to the number of animals.*
[2] *Recommendations regarding heifer grouping are as follows:*
3-4 months old: 3-5 heifers / group
5-8 months old: 6-12 heifers / group
9 months and older: 10-20 heifers / group

(Source: Les bovins laitiers. CRAAQ. 2008. Table 3. P.165.)

Q-115

Final score = sum of scores obtained for all housing units divided by total number of housing units.

Final score Q-115 = ____

5 possibilities	40
4 possibilities	32
3 possibilities	24
2 possibilities	16
1 possibility	8
No possibility	0

Housing unit ___ = ____ pts

Housing unit ___ = ____ pts

Housing unit ___ = ____ pts

Housing unit ___ = ____ pts

Housing unit ___ = ____ pts

Housing unit ___ = ____ pts

Housing unit ___ = ____ pts

Housing unit ___ = ____ pts

Housing unit ___ = ____ pts

Housing unit ___ = ____ pts

9.2 Characteristics

Q-116*

The quantity of bedding used for heifers is...
(Place answers in Table)

A. Very plentiful, floor completely covered with bedding
B. Plentiful, most of the floor covered with bedding although bedding is thin at some places or mat and bedding
C. Scarce, most of floor is visible
D. No bedding
E. No bedding but mat
F. Not applicable (Animals on pasture)

	A	B	C	D	E	F
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						

Q-116

(Lowest score of housing units)

A or B	**4**
C, D or E	**0**

Q-117*

How much accumulated manure is there in the housing units?
(Place answers in Table)

A. None
B. Little manure and / or visible wet areas
C. Manure-free area larger than contaminated area
D. Contaminated area larger than manure-free area
E. Entire area contaminated

	A	B	C	D	E
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					
Housing unit ___					

Q-117

(Lowest score of housing units)

A	**8**
B or C	**4**
D or E	**0**

Q-118*

What is the cleanliness level in the calf housing environment?
(Cleanliness of walls, humidity, etc.)

A. Very clean
B. Acceptable
C. Unacceptable

	A	B	C
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			
Housing unit ___			

Q-118

(Lowest score of housing units)

A	**8**
B	**4**
C	**0**

Q-119

What are the dimensions[1] of these housing units?

[1] See Appendix 2 for references for minimal dimensions

Free stall housing units with individual stalls

	Age group	Width (m/ft)	Length (m/ft)	Height of the adjustable bar (cm / in)
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				

Tie stall housing units

	Age group	Width (m/ft)	Length (m/ft)	Height of the bar (cm / in)
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				
Housing unit ___				

Q-119

(Lowest score of housing units)

≥ Minimum area	9
< Minimum area	0

Individual or group pen housing units

	Age group	Width (m/ft)	Length (m/ft)	Area (m^2 / ft^2)	Number of heifers	Area / heifer (m^2 / ft^2)
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						
Housing unit ___						

9.3 Pasture

If pastures are close to the buildings
(Facultative question)

Q-120

Verification

Q-120

If heifers are on pasture during the summer…

…do they have access to water within 200 m?
(Source: Les bovins laitiers. CRAAQ. 2008. P.373)

Yes ☐ No ☐

…do they have access to forages and / or mineral supplements?

Yes ☐ No ☐

… is there a shaded area or a protection from bad weather in the pasture?

Yes ☐ No ☐

10. General Monitoring of Animals

10.1 Mortality and morbidity (Disease)

(No measurement)

10.1 General Monitoring of Animals

(No measurement)

Partial Score Calculation

On-Farm Measurements

For each critical area, add up the scores obtained for each question with regards to the corresponding good management practices (see tables below).

Transfer your results in the “Evaluation Report”.

1. Calving Management

Good practices	Questions	Score obtained for the “On-farm measurements” section
Use of calving pen on a regular basis	No question	
Comfort and ergonomic quality of calving pen	Q-82 + Q-83	/9
High calving pen cleanliness level	Q-86	/4
Appropriate calving pen management for sick animals	No question	
High calving monitoring level	No question	

2. Newborn Calf Care

No measurement

3. Colostrum Management

Good practices	Questions	Score obtained for the "On-farm measurements" section
Not letting calf suckle its dam for the first feeding (monitor intake)	No question	
Proper hygiene measures for colostrum collection and distribution	Q-92	/6
Ensure adequate immunoglobulin intake (IgG = 200 g)	No question	
First feeding as soon as possible and within 6 hours after birth	No question	
Monitoring of quantity ingested at first feeding	No question	
Feeding at least 4 L (large size breeds) or 3 L (small size breeds) of first milking colostrum within the first 12 hours after birth	No question	
Routine supply of adequate stocks of frozen colostrum	No question	
Routine assessment of colostrum quality	No question	
Routine verification of immunity transfer	No question	

4. Separation from Dam

No measurement

5. Calf Feeding

Good practices	Questions	Score obtained for the "On-farm measurement" section
Milk feeding plan followed	No question	
Over 8 L (large size breeds) or 5 L (small size breeds) of milk feed per calf per day	No question	
Frequency of feedings and use of a nipple	No question	
Milk of sick cows not used	No question	
Access to water from the 2nd day after birth on	No question	
Clean and functional waterers, unrestricted access	Q-97a + Q-97b	/10
Feeding plan followed	No question	
Access to concentrates at all times	Q-100a	/6
Clean and functional troughs, unrestricted access	Q-95 + Q-100b + Q100c	/11

6. Weaning

No measurement

7. Calf Housing

Good practices	Questions	Score obtained for the "On-farm measurements" section
Housing unit allows calf to be comfortable	Q-104 + Q-108	/52
High cleanliness and adequate quantities of bedding	Q-105 + Q-106 + Q-107	/30
Regular verification of ventilation and air quality	No question	

8. Heifer Feeding

Good practices	Questions	Score obtained for the "On-farm measurements" section
Clean and functional waterers, unrestricted access	Q-109a + Q-109b	/30
Access to forage feed at all times	Q-111a	/15
Clean and functional troughs, unrestricted access	Q-111b + Q-111c + Q-112a + Q-112b	/20
Feeding plan followed	No question	

9. Heifer Housing

Good practices	Questions	Score obtained for the "On-farm measurements" section
Housing unit allows calf to be comfortable	Q-115 + Q-119	/49
High cleanliness and adequate quantities of bedding	Q-116 + Q-117 + Q-118	/20
Regular verification of ventilation, air quality, photoperiod and light intensity	No question	
Access to pasture	No question	
Sufficient adaptation period to lactating cows housing unit	No question	

10. General Monitoring of Animals

No measurement

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Evaluation Report

Farm: _____
Date: _____
Observer: _____

Time started: _____
Time completed: _____

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Agriculture and Agri-Food Canada / Agriculture et Agroalimentaire Canada
valacta
Université de Montréal

Presentation

This document **summarizes observations from the on-farm evaluation visit** of calf and heifer management practices.

The diagnosis focuses on **10 critical areas of rearing** strategies.

The farm gets a score for each individual critical area, ranging from 0 (Target not achieved) to 100 (Target perfectly reached). **The score obtained by the farm on those 10 critical areas will help the producer to focus on elements which should be improved in his rearing strategies.**

Each of the 10 critical areas consists of a grouping of several good practices. All good practices of a single critical area add up to a maximum of 100 points. Each good practice has a maximal score, which represents the relative importance of this good practice over the group of good practices of a critical area. **The score obtained by the farm for each good practice will help the producer to focus on elements which should be improved in his rearing strategies.**

The choice of good practices as well as the associated scoring system was discussed by a group of experts from several sectors of the dairy industry (technical advisor, producer, veterinary, and researcher).

Version of March 26th, 2010.

Score for the 10 Critical Areas of Rearing

1. Calving Management

0 25 50 75 100

2. Newborn Calf Care

0 25 50 75 100

3. Colostrum Management

0 25 50 75 100

4. Separation from Dam

Aucune mesure

5. Calf Feeding

0 25 50 75 100

6. Weaning

0 25 50 75 100

7. Calf Housing

0 25 50 75 100

8. Heifer Feeding

0 25 50 75 100

9. Heifer Housing

0 25 50 75 100

10. General Monitoring of Animals

0 25 50 75 100

1. Calving Management

Good practices	"Management Survey" Score	"On-Farm Measurement" Score	Total Score
Use of calving pen on a regular basis	/30		/30
Comfort and ergonomic quality of calving pen		/9	/9
High calving pen cleanliness level	/14	/4	/18
Appropriate calving pen management for sick animals	/8		/8
High calving monitoring level	/35		/35

Total /100

Comments: _____

_____

_____

2. Newborn Calf Care

Good practices	"Management Survey" Score	"On-Farm Measurement" Score	Total Score
Immediate umbilicus disinfection on a regular basis	/20		/20
Rigourous care to newborn calves	/15		/15
Immediate identification on a regular basis	/20		/20
Appropriate painful procedure management	/45		/45

Total /100

Comments: _____

_____

_____

3. Colostrum Management

Good practices	"Management Survey" Score	"On-Farm Measurement" Score	Total Score
Not letting calf suckle its dam for the first feeding (monitor intake)	/11		/11
Proper hygiene measures for colostrum collection and distribution	/5	/6	/11
Ensure adequate immunoglobulin intake (IgG = 200 g)	/7		/7
First feeding as soon as possible and within 6 hours after birth	/22		/22
Monitoring of quantity ingested at first feeding	/11		/11
Feeding at least 4 L (large size breeds) or 3 L (small size breeds) of first milking colostrum within the first 12 hours after birth	/18		/18
Routine supply of adequate stocks of frozen colostrum	/11		/11
Routine assessment of colostrum quality	/6		/6
Routine verification of immunity transfer	/3		/3

Total /100

Note: *Some diseases can be transmitted by colostrum. Consult your veterinary for colostrum management with regards to the sanitary status of your herd.*

Comments: _____

4. Separation from Dam

No measurement

Comments: _____

5. Calf Feeding

Good practices	"Management Survey" Score	"On-Farm Measurement" Score	Total Score
Milk feeding plan followed	/9		/9
Over 8 L (large size breeds) or 5 L (small size breeds) of milk feed per calf per day	/22		/22
Frequency of feedings and use of a nipple	/8		/8
Milk of sick cows not used	/8		/8
Access to water from the 2nd day after birth on	/11		/11
Clean and functional waterers, unrestricted access		/10	/10
Feeding plan followed	/9		/9
Access to concentrates at all times	/6	/6	/12
Clean and functional troughs, unrestricted access		/11	/11
		Total /100	

Comments: _____

_____

_____

6. Weaning

Good practices	"Management Survey" Score	"On-Farm Measurement" Score	Total Score
Age and concentrate intake adequate for weaning	/55		/55
Adoption of a progressive weaning method	/45		/45
		Total /100	

Comments: _____

_____

_____

7. Calf Housing

Good practices	"Management Survey" Score	"On-Farm Measurement" Score	Total Score
Housing unit allows calf to be comfortable		/52	/52
High cleanliness and adequate quantities of bedding	/15	**/30**	/45
Regular verification of ventilation and air quality	/3		/3
		Total /100	

Comments: _____

_____

_____

8. Heifer Feeding

Good practices	"Management Survey" Score	"On-Farm Measurement" Score	Total Score
Clean and functional waterers, unrestricted access		/30	/30
Access to forage feed at all times	/10	**/15**	/25
Clean and functional troughs, unrestricted access		**/20**	/20
Feeding plan followed	/25		/25
		Total /100	

Comments: _____

_____

_____

9. Heifer Housing

Good practices	"Management Survey" Score	"On-Farm Measurement" Score	Total Score
Housing unit allows calf to be comfortable		/49	/49
High cleanliness and adequate quantities of bedding	/12	**/20**	/32
Regular verification of ventilation, air quality, photoperiod and light intensity	/6		/6
Access to pasture	/6		/6
Sufficient adaptation period to lactating cows housing unit	/7		/7
		Total /100	

Comments: _____

_____

_____

10. General Monitoring of Animals

Good practices	"Management Survey" Score	"On-Farm Measurement" Score	Total Score
Adequate recording of mortality and morbidity cases	/30		/30
On-farm biosecurity protocol	/10		/10
Growth monitoring	/35		/35
Hoof monitoring	/15		/15
Appropriate breeding management	/10		/10
		Total /100	

Comments: _____

_____

_____

Evaluate your Rearing Strategies

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Appendix 1: Picture Chart

This document provides pictures to visualize the different qualitative measures takes during the « On-Farm Measurements».

It is divided into 3 sections: a **cleanliness** chart, a chart illustrating **housing types**, and a chart explaining **potential hazards** in calving pens. Each section is presented in a chronological order with respect to data collection.

This project was financially supported by Novalait's pilot-farm network program.

Version of March 26th 2010.

Cleanliness Chart

Calving Pen

Quantity of bedding (Q-84)

A. Very plentiful, floor completely covered with bedding


B. Plentiful, most of the floor covered with bedding although bedding is thin at some places or mat and bedding


C. Scarce, most of floor is visible


D. No bedding (no picture available)

E. No bedding but mat


Manure accumulation in calving pen (Q-85)

A. None

B. Little manure and / or visible wet areas


C. Manure free area larger than contaminated area (same pen for both pictures)


D. Contaminated area larger than manure-free area
(No picture available)

E. Entire area contaminated
(No picture available)

Cleanliness of calving pen environment (Q-86)

A. Clean


B. Acceptable


C. Unacceptable


Cleanliness of colostrum distribution methods (Q-92)

Bottle + Nipple

Very clean

Acceptable

Unacceptable

Nipple pail

Very clean

Acceptable
(No picture available)

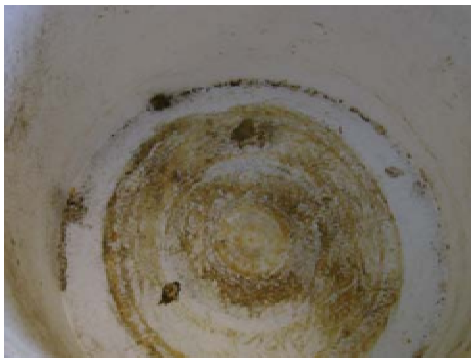
Unacceptable
(No picture available)

Open pail

Very clean

Acceptable

Unacceptable



Oesophageal Feeder

Very clean

Acceptable

Unacceptable

Cleanliness of equipment used for milk and milk replacer feeding (Q-95)

A. Bottle with Nipple

Very Clean

Acceptable
(No picture available)

Inacceptable
(No picture available)

B. Nipple pail

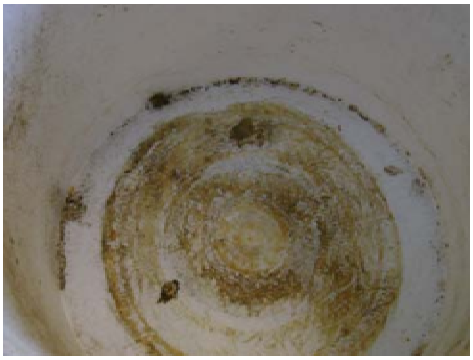
No picture available

C. Open pail

Very clean

Acceptable

Unacceptable



D. Automatic delivery system

Very clean
(No picture available)

Acceptable



Unacceptable
(No picture available)

E. Large nipple bucket

(No picture available)

Cleanliness of waterers for calves and heifers (Q-97 et Q-109)

A. Pail

Very clean

Acceptable (clean pail with few residues)


Inacceptable (dirty pails with lots of residues)

B. Automatic waterer

Very clean

Acceptable

(Considered acceptable when small quantities of feed are present or slightly dirty)

Unacceptable

Cleanliness of forage supports (Q-99 et Q-111)

A. Forage trough

Very clean

Acceptable

Unacceptable
(No picture available)

B. On the floor

Very clean
(No picture available)

The feeding surface on the concrete floor must be covered with ceramic, stainless steel, glass fibre, plastic or other washable material to be qualified as very clean.

Acceptable

Unacceptable
(No picture available)

Cleanliness of concentrate supports (Q-100 et Q-112)

A. Concentrate trough

Very clean

Acceptable

Unacceptable
(Dirty trough, lots of flies…)

B. On the floor

Very clean
(No picture available)

The feeding surface on the concrete floor must be covered with ceramic, stainless steel, glass fibre, plastic or other washable material to be qualified as very clean.

Acceptable

Unacceptable
(No picture available)

Calf housing

Quantity of bedding (Q-105)

A. Very plentiful, floor completely covered with bedding

B. Abondante Plentiful, most of the floor covered with bedding although bedding is thin at some places or mat and bedding

C. Scarce, most of floor is visible

D. No bedding
(No picture available)

E. No bedding but mat
(No picture available)

Manure accumulation in calf housing units (Q-106)

A. None

B. Little manure and / or visible wet areas

C. Manure-free area larger than contaminated area

D. Contaminated area larger than manure-free area

E. Entire area contaminated

Cleanliness of the environment (Q-107)

Very clean

Acceptable

Unacceptable

Heifer Housing

Quantity of bedding (Q-116)

D. Very plentiful, floor completely covered with bedding

B. Plentiful, most of the floor covered with bedding although bedding is thin at some places or mat and bedding

C. Scarce, most of floor is visible

D. No bedding

E. No bedding but mat

Manure accumulation in housing units (Q-117)

A. None


B. Little manure and / or visible wet areas

C. Manure-free area larger than contaminated area


D. Contaminated area larger than manure-free area


E. Entire area contaminated

Cleanliness of the heifer housing environment (Q-118)

A. Very clean

B. Acceptable

C. Unacceptable

Types of Housing Chart

Calf Housing (Q-103)

C1. Pens with bars (Visual contact allowed)


C2. Pens with solid walls (Visual contact not allowed)


C3. Closed hutch
(No picture available)

C4. Opened hutch with chain


C5. Opened hutch with pen
(No picture available)

C6. Wooden or metal cage
(No picture available)

C7. Individual stalls


C8. Tied to wall


C9. Pen with solid walls and tied to wall


C10. Opened wooden cage with chain

C11. Pen with bars and tied to wall

Heifer Housing (Q-114)

Tie Stall

Free stall

Outdoor group pen
(No picture available)

Indoor pen (group)

Indoor pen (Individual)

Pasture

Outdoor group hutch with pen

Safety Hazards Chart

Calving Pen (Q-83)

Hole in pen floor

Metal bar which should not be in the pen and can cause injuries

Step in middle of calving pen

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Appendix 2 :
Minimal Housing Dimensions

This document is a reference to calculate the score for Q-119 of the « On-Fam Measurements » document.

It is divided into 3 sections wioth regards to housing type: group pens, free stall or tie stall housing.

1. Individual or group pens

Table 5. Minimal standards generally recognized in terms of lay-out

Lay-out type	Age (Months)					
	0-2	3-4	5-8	9-12	13-15	16-25
	m^2/head (ft^2/head)					
Rest area	2.2-3 (24-32)	1.9 (20)	2.3 (25)	3.7 (40)	4.2 (45)	4.7-7 (50-75)
Outdoor paved area		2.8 (30)	3.3 (35)	3.7 (40)	4.2 (45)	4.7-7 (50-75)
Indoor floor		1.9 (20)	2.3 (25)	2.8 (30)	3.7 (40)	5.6 (60)
	m (ft)					
Cleaning area		2.7 (6)	2.4-3 (8-10)	2.4-3 (8-10)	2.4-3 (8-10)	2.4-3 (8-10)

Source : Heinrichs, 1991; Doepel, 2005; Reproduced with the autorisation of CRAAQ, 2009.

2. Free stall housing units

Table 5. Dimensions of the Heifer Stalls

Holstein		Stall Dimensions		
Age (Months)	Weight[1] (kg)	Length cm (in)	Width[2] cm (in)	Height of the adjustable bar cm (in)
0-2	43-113	--	--	--
3-5	117-225	133 (52)	69 à 81 (27 à 32)	83 (33)
6-8	216-280	148 (58)	79 à 89 (31 à 35)	92 (36)
9-12	266-391	160 (63)	94 (37)	100 (39)
13-15	365-474	167 (66)	102 (40)	104 (41)
16-18	440-558	170 (67)	109 (43)	107 (42)
19-21	514-641	174 (69)	114 (45 à 48)	109 (43)
22-24	588-724	176 (69)	122 (48)	110 (43)
Ayrshire		**Stall Dimensions**		
Age (Months)	Weight[1] (kg)	Length cm (in)	Width cm (in)	Height of the adjustable bar cm (in)
0-2	40-101	--	--	--
3-5	104-175	127 (50)	66 (26)	80 (31)
6-8	168-249	140 (55)	76 (30)	88 (35)
9-12	232-348	152 (60)	89 (35)	95 (37)
13-15	317-423	158 (62)	97 (38)	99 (39)
16-18	381-497	162 (64)	104 (41)	101 (40)
19-21	445-572	166 (65)	109 (43)	104 (41)
22-24	509-646	168 (66)	114 (45)	105 (41)
Jersey		**Stall Dimensions**		
Age (Months)	Weight[1] (kg)	Length cm (in)	Width cm (in)	Height of the adjustable bar cm (in)
0-2	449-85	--	--	--
3-5	93-162	120 (47)	64 (25)	75 (30)
6-8	155-230	120 (47)	74 (29)	82 (32)
9-12	212-310	142 (56)	84 (33)	89 (35)
13-15	281-364	148 (58)	91 (36)	92 (36)
16-18	328-415	152 (60)	97 (38)	95 (37)
19-21	373-463	156 (61)	102 (40)	98 (38)
22-24	413-510	161 (63)	104 (41)	101 (40)

[1] Weight corresponds to the 50th percentile at the beginning of the period and the 90th percentile at the end of the period
[2] The highest number corresponds to the Code de pratiques pour le soin et la manipulation des bovins laitiers (Agriculture Canada, 1990).

Remarks :

- Lenght of the stall corresponds to 1.2 times the height of the heifer at the rump (correlation from Lefebvre et al. 2004: [0.9795 × rump height (cm)] + 7.1260); Reference PATLQ 2004 PROM-S.
- Width of the stalls corresponds to twice the width of the heifer at the hip bones plus 76 mm (3 in).
- Height of the adjustable bar corresponds to 0.75 times the height of the heifer at the rump.
- Width at the hip bones is adapted from Henrichs and PATLQ 2004 (ref. Martin, R.).

Source : Leblanc, R. and M. Dussault; Reproduced with the autorisation from CRAAQ, 2009.

3. Tie Stall Housing Units

Table 4a. Dimensions of the Heifer Stalls

Holstein		Stall Dimensions		
Age (Months)	Weight[1] (kg)	Length cm (in)	Width[2] cm (in)	Height of the adjustable bar cm (in)
0-2	43-113	--	--	--
3-5	117-225	133 (52)	77 (30)	83 (33)
6-8	216-280	148 (58)	89 (34)	92 (36)
9-12	266-391	160 (63)	101 (40)	100 (39)
13-15	365-474	167 (66)	109 (43)	104 (41)
16-18	440-558	170 (67)	116 (46)	107 (42)
19-21	514-641	174 (69)	123 (48)	109 (43)
22-24	588-724	176 (69)	129 (51)	110 (43)
Ayrshire		**Stall Dimensions**		
Age (Months)	Weight[1] (kg)	Length cm (in)	Width cm (in)	Height of the adjustable bar cm (in)
0-2	40-101	--	--	--
3-5	104-175	127 (50)	74 (29)	80 (31)
6-8	168-249	140 (55)	84 (33)	88 (35)
9-12	232-348	152 (60)	96 (38)	95 (37)
13-15	317-423	158 (62)	104 (41)	99 (39)
16-18	381-497	162 (64)	110 (44)	101 (40)
19-21	445-572	166 (65)	117 (46)	104 (41)
22-24	509-646	168 (66)	123 (48)	105 (41)
Jersey		**Stall Dimensions**		
Age (Months)	Weight[1] (kg)	Length cm (in)	Width cm (in)	Height of the adjustable bar cm (in)
0-2	449-85	--	--	--
3-5	93-162	120 (47)	72 (28)	75 (30)
6-8	155-230	120 (47)	82 (32)	82 (32)
9-12	212-310	142 (56)	92 (36)	89 (35)
13-15	281-364	148 (58)	98 (39)	92 (36)
16-18	328-415	152 (60)	103 (41)	95 (37)
19-21	373-463	156 (61)	108 (43)	98 (38)
22-24	413-510	161 (63)	112 (44)	101 (40)

[1] Weight corresponds to the 50th percentile at the beginning of the period and the 90th percentile at the end of the period

.

Remarks :

- Lenght of the stall corresponds to 1.2 times the height of the heifer at the rump (correlation from Lefebvre et al. 2004: [0.9795 × rump height (cm)] + 7.1260); Reference PATLQ 2004 PROM-S.

- Width of the stalls corresponds to twice the width of the heifer at the hip bones plus 150 mm (6 in). Adaptation based on the relationship between the width at the hip bones and the body weight established by Henrichs, 1992 and the curve from PATLQ 2004 (ref. Martin, R. 2006).

- Height of the attachement bar corresponds to 0.75 times the height of the heifer at the rump. The attachement bar is placed on top of the low wall or slightly in front of it (0 to 150 mm; 0 to 6 in) for replacement subjects.

- Individual housing is recommended for heifers from 0 to 2 months of age.

Source : Leblanc, R. and M. Dussault; Reproduced with the autorisation from CRAAQ, 2009.

References

Dussault, Marcel and Richard Leblanc, 2008. *Les étables à stabulation entravée*. In : « Les bovins laitiers » Centre de référence en agriculture et agroalimentaire du Québec, Quebec, pp.197-234.

Dussault, Marcel and Richard Leblanc, 2008. *Les étables à logette*. In : « Les bovins laitiers » Centre de référence en agriculture et agroalimentaire du Québec, Quebec, pp.235-269.

Larouche, Laurent, 2008. *Le logement des sujets de remplacement*. In : « Les bovins laitiers ». Centre de référence en agriculture et agroalimentaire du Québec, Quebec, pp.161-196.

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Appendix 3 – Instructions

Colostrum Collection, Freezing and Thawing

Colostrum is essential to the survival of newborn calves.

It is absolutely essential to provide good quality colostrum: the quality is verified in the barn using a colostrometer immediately on collection of the colostrum.

Colostrum must be collected under strictly hygienic conditions (clean container).

Colostrum must be fed to the calves immediately after its quality is verified, and the surplus then stored in the refrigerator until the second colostrum meal.

Good quality colostrum that will not be used within 12 hours of collection must be immediately stored in the freezer for later use.

Building colostrum reserves enables producers to ensure that newborn calves always receive good quality colostrum.

Colostrum Collection

1. Collect only milk from the first milking of the newly freshened cow.

2. Hygiene during colostrum collection is extremely important: make sure that the container is clean (has been washed with soap and hot water).

3. Evaluate colostrum quality with a colostrometer or any other precise immunoglobulin (IgG) measurement tool.

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Colostrum Freezing

1. Use medium-sized freezer «*Ziploc*»-type bags identified with the collection date, valuated quality (colostrometer) an cow name/number with a permanent marker.

2. Collect approximately 500 mL (2 cups) of colostrum and place it in the medium-sized Ziploc freezer bag.

3. Lay the bag flat in the freezer. If several samples are frozen, stack the bags on top of each other to save space.

Colostrum Thawing

1. Place your medium-sized Ziploc bag inside a large Ziploc bag in order to prevent any loss of colostrum (the colostrum bag may be damaged during thawing).

2. Place your bags parallel to each other in a bucket containing hot water, but not "too hot." The temperature must not exceed 40 °C (an easy way to test the water temperature: you must be able to leave your hand in the water).

3. Depending on the size of the bucket, you can thaw several samples of colostrum at the same time. Example: In a 10-litre bucket, you can easily thaw four 500-mL samples of colostrum (2 litres).

4. The bags are allowed to thaw for approximately 15 to 20 minutes. The thawed colostrum is at a temperature of approximately 20 °C.

5. When the colostrum is thawed, it can easily be transferred to a nursing bottle using a funnel. It must be fed directly to the newborn calf.

Evaluate your Rearing strategies

An adapted advisory tool to evaluate your calf and heifer management strategies

Appendix 4 – Score explanation

This document outlines the **good management strategies** which were established by the research team in order to attribute a score to each of the 10 key elements of this tool.

These good strategies were **validated by a group of experts** from several disciplines (nutritionists, specialists in animal comfort and management systems, veterinarian) and cover only the aspects for which, in the authors' opinion, sufficient scientific references are available to validate a recommendation.

This document is organized around **10 critical areas of rearing management**.
It is organized in two parts: a presentation of the **objectives of our tool** for each of the management system elements considered, and the **good practices** for these elements.

1. Calving Management

1.1. Calving Area

OBJECTIVES OF THE TOOL:

- Encourage the producer to use an appropriate calving pen on a regular basis;
- Verify that the calving area is properly used;
- Verify the **cleanliness** and **ergonomics** (i.e. cow comfort and absence of hazardous points) of the calving area

GOOD PRACTICES:

We recommend **systematic use of an adapted calving pen**. The use of a **calving pasture** is encouraged. **We do not recommend tying for calving.**

The rationale for these recommendations is as follows:

- Reduce the stress on the cow and improve comfort during the delivery process (i.e. the cow must be able to move, change position, etc. which is a frequent behaviour);
- Improve calf hygiene (i.e. the calf is not born in the scrape alley), minimize contact with excreta, which is a source of contamination;
- Provide a dry location for the calf and the possibility for the cow to dry her calf and stimulate it by licking. However, the colostrum must be given by the producer, who must not count on the mother to provide the colostrum;
- Facilitate the intervention of the producer or veterinarian in the event of problems.

The calving pen must be in a location that is in plain view, i.e. easily accessible and easy to monitor; in addition, installing cameras can improve monitoring. This is also true for the calving pasture.

We recommend **careful attention to the cleanliness of the maternity area**. In terms of recommended practices between each calving, we suggest, from the best to the least recommended practice, in order from 1 to 5: 1) Disinfect the area (the best practice), 2) as a minimum change the bedding, 3) at least add bedding and remove excreta and placenta, 4) at the very least remove excreta and placenta, 5) unacceptable to do nothing at all.

We recommend **careful management of the calving area if it is also to be used to house sick cows.** If the calving area is used to isolate sick cows, the area must be systematically disinfected as soon as a sick cow is moved out.

1.2. Calving Monitoring

OBJECTIVES OF THE TOOL:
- Verify the level of **monitoring** of calvings
- Encourage the producer to **adequatly monitor** each calving (one check every 4 hours)

GOOD PRACTICES:
We recommend **monitoring the calving area with at least one check every four hours**. The rationale for this recommendation is the need to give the colostrum to the newborn calf as soon as possible after birth and at least within the first 6 hours of life (i.e. optimal absorption of immunoglobulins from the colostrum by the calf in the first 4 hours of life). **Checks every 4 hours are particularly important for cows that are tied during calving**: the calf will probably end up in the scrape alley and will not benefit from being dried and stimulated by the cow.

The well-being of the calf is considered equally important both day and night; therefore **no distinction in terms of the number of checks during the day or the night.**

A camera may be helpful in improving monitoring of the animals both day and night and the price of camera monitoring equipment is affordable today.

2. Newborn Calf Care

2.1. Umbilicus Disinfection

OBJECTIVES OF THE TOOL:
- Verify that umbilicus disinfection is carried out routinely
- Encourage the producer to carry out **systematic and immediate disinfection** with an appropriate product (i.e. monitor quantity of iodine applied)

GOOD PRACTICES:
We recommend **systematic and immediate disinfection of the umbilicus** to accelerate drying of the cord and prevent entry of organisms into the body, since an “open” umbilicus is an open door to bacterial infection.

The equipment must be clean and the product used appropriate. For example, 5% concentrated iodine is recommended for umbilicus disinfection, while the iodine used for teat-dipping is at a concentration of 1% and is therefore not adequate.

2.2. Care to Newborn Calves

OBJECTIVES OF THE TOOL:
- Verify that calves are stimulated at birth if necessary.
- Encourage the producer to adequately **dry newborn calves** and to house them on **abundant dry bedding in a place free of draughts.**
- Encourage the producer to limit physical contacts in the first days after birth.

GOOD PRACTICES:

We suggest that calf **vigor** should be evaluated at birth and that calves needing it should be **stimulated**. Avoid suspending calf by rear limbs to favour drainage of lung secretions.

We propose to **dry** calf at birth either by letting it be **licked by the mother** or with a **clean towel**. Moreover, we encourage producers to house calves on **abundant dry bedding** within hours after birth in **an area free of draughts**.

We consider important to avoid all physical contacts between newborn calves and other animals other than the dam in the first 48 hours after birth.

2.3. Identification

OBJECTIVES OF THE TOOL:

- Verify **male** and **female** identification
- Encourage the producer to perform **systematic and immediate** identification on the day of birth and after the feeding of colostrum

GOOD PRACTICES:

For proper individual calf management (i.e. weight, feed intake, diseases, etc.), we recommend **immediately and systematically identify** every calf. The recommended time for tagging is **on the first day of life and after colostrum feeding** to allow the calf time to recover its strength after birth.

2.4. Painful Procédures

OBJECTIVES OF THE TOOL:

- Verify **effective pain management**
- Encourage the producer to use appropriate **methods** at an appropriate age under veterinary supervision

GOOD PRACTICES:

We recommend that **dehorning be carried out under veterinary supervision**.
In terms of supervision, the method and products used must be validated by the veterinarian and a standard operating procedure (**SOP**) must be established. Dehorning must be carried out in the first 3 weeks (and absolutely in the first 3 months). The veterinarian must ensure effective pain management by administering an analgesic (e.g. Ketoprofen), possibly with an anesthetic as well.

Semen for **polled animals** is available from major insemination centres, which eliminates the issue of dehorning.

In terms of recommended methods, the easiest pain control method is **caustic paste** (chemical burn). In this case, dehorning can be done at 4 to 5 days of age. However, the animal must be isolated (to avoid getting the paste on the others) and a sedative administered.

If a **hot iron** is used for dehorning, we do not recommend using a local anesthetic alone, since it does not appear to be sufficient for effective pain relief (i.e. it relieves the pain only at the time of the burn). We recommend administering a combination of a sedative (e.g. Xylasine), a local anesthetic (e.g. Lidocaine) and an analgesic/anti-inflammatory (e.g. Ketoprofen) to effectively reduce the pain during dehorning and in the subsequent hours. These products are not accessible to producers, hence the importance of having the dehorning done by a veterinarian.

The rationale for **not recommending late dehorning** is:
- Removing the buttons at an advanced age worsens the physiological and behavioural reactions;
- After 3 months, dehorning should be performed surgically (e.g. scooping, shearing and sawing), but it remains painful and weight losses can be seen up to 100 days after dehorning;

We recommend dehorning before 3 months when “less painful” (but still painful) methods are used, i.e. caustic paste or hot iron, following the procedures recommended above.

We do not recommend tail docking since it is not justified. In fact, no effect on udder cleanliness and health has been demonstrated. In addition, negative long-term effects of tail docking are the sensation of chronic pain (phantom limb phenomenon) and the inability of the animal to get rid of flies and other parasites.

3. Colostrum Management

3.1. Collection and Feeding Method

OBJECTIVES OF THE TOOL:

- Verify the colostrum feeding method
- Encourage the producer to use a method that facilitates control of the quantity and quality of colostrum fed and the use of an **esophageal tube** in the event of problems
- Encourage the producer to apply **strict hygiene measures** during colostrum collection and feeding

GOOD PRACTICES:

In terms of quantity of colostrum, we recommend 4 L for large breeds (e.g. Holstein, Ayrshire, Brown Swiss) and 3 L for smaller breeds (e.g. Jersey, Canadian).

The method used must enable the producer to control the quantity ingested and thus ensure that **the calf voluntarily consumes 3-4 L of colostrum, depending on the breed. The mother must not be allowed to manage colostrum intake.**

If the calf does not consume this quantity voluntarily, the pridoducer must ensure that the calf consumes an adequate quantity of immunoglobumins (minimum 200g of IgG). We recommend two options:

- Verify the quality of the colostrum measured by the colostrometer and ensure that the quantity fed is sufficient in light of the quality measured (see colostrometer instructions).
- Use an esophageal tube to make up 3-4 L depending on breed.

3.2. Colostrum Intake

OBJECTIVES OF THE TOOL:
- Verify the timing and the quantity fed at the **first meal**
- Encourage the producer to feed **4 L (3L for small breeds) of colostrum** as quickly as possible after birth
- Verify the quantity of colostrum distributed within the **first 12 hours**

GOOD PRACTICES:
We recommend that the calf be fed **3-4 of colostrum L (according to breed) as quickly as possible and at least within the 6 first hours**, in a single meal. The rationale for this recommendation is the optimal absorption of immunoglobulins from the colostrum by the calf in the first 4 hours of life. In fact, the absorption of immunoglobulins from the colostrum by the calf's intestine declines very quickly after birth: effectiveness of absorption is 50% at 0 h, 30% at 4 h, 20% at 8 h, 10% at 12 h and zero at 24 h.

The producer must **control the quantity given**. The 3-4 L of colostrum given after birth in 1 or 2 meals must come from **first-milking colostrum**. In fact, the immunoglobulin content is reduced by half in the second-milking colostrum compared to the first, but this 50% reduction also applies to the other components of the colostrum which have a major role in providing energy (e.g. other proteins, fat, lactose, vitamin A, calcium, magnesium).

We recommend **4 L (3L for small breeds) for a good transfer of immunity to the calf.** In fact, the transfer of 100 g of colostral IgG (absorption effectiveness of 50%, i.e. in the first four hours of life) for an effective transfer of immunity (10 g/L in calf serum at 24 h) requires administration of 4 L (3L for Jersey ans Canadian calves) of good quality colostrum (50 g IgG/L).

We recommend that **3-4 L be given in a single meal.** In fact, a second meal given 1 hour after the end of the first meal is ineffective in terms of intake. Furthermore, a second meal compromises the absorption of immunoglobulins since the calf's intestine becomes less and less effective in absorbing the immunoglobulins over time.

A clarification is in order concerning our recommendation to feed 4 L (3 L for msall breeds) of colostrum, but only in cases where colostrum quality is assessed. In fact, 3 L (2 L for small breeds) of superior quality colostrum as evaluated with a colostrometer could be sufficient, but only if colostrum quality is controlled. Providing a lesser quantity (ex. only 2 L of colostrum) drastically increases prevalences of failure of effective immunity transfer.

3.3. Colostrum Quality

OBJECTIVES OF THE TOOL:
- Verify whether the quality of the colostrum is **evaluated**
- Encourage the producer to use a **colostrometer**, to **build reserves** and **to verify the transfer of immunity**

GOOD PRACTICES:
We recommend evaluating colostrum quality with a colostrometer or any other more accurate instrument capable of measuring the immunoglobulin content of colostrum.

The colostrometer is used to evaluate the immunoglobulin content of colostrum. These immunoglobulins must be transferred to the newborn calf to allow it to acquire immunity; in fact, the calf does not have an effective immune system at birth. The recommended quality is good (density between 1035 and 1045 mg/L, as read on the colostrometer) to excellent (density > 1045 mgL, as read on the colostrometer).

We recommend **building reserves of colostrum**. Colostrum evaluated as good quality (dark green to very dark green, as read on the colostrometer provided) that will not be used within 12 hours after collection (i.e. for the colostrum meal) must immediately be placed in

a clean container (e.g. Ziploc bag) and stored in the freezer (and not in the refrigerator, since bacterial growth in colostrum continues) for long-term use.

We recommend **other practices to maintain good colostrum quality and prevent contamination and bacterial growth**. Colostrum must be collected under strictly hygienic conditions (i.e. clean container with a cover washed with soap and a brush). It must be fed immediately after verifying its quality, and then stored in the refrigerator until the second colostrum meal (in the event that a second meal is given).

We recommend **verifying the transfer of immunity**. Effective transfer of immunity is verified by collecting a blood sample 24-48 hours after the first meal; the purpose is to verify the quantity of Ig in the calf's serum. Commercial kits are available for this purpose and are easy to use on the farm (ex. Whole Blood Calf IgG Midland Quick Test Kit®). We recommend the implication of a veterinary in the assessment of immunity transfer: other options are available (ex. Laboratory analysis of immunity transfer, refractometer, etc.) and will be suggested by your veterinary.

4. Separation from Dam

OBJECTIVES OF THE TOOL:
Discuss the strategy of mother-calf separation and be aware of the pros and cons of each strategy. Because each strategy has its pros, we have no recommendation on this question.

THE PROS AND CONS OF EACH STRATEGY:

Immediate separation
- Reduces the risk of exposure to pathogens in the environment (excreta);
- Facilitates first aid and controls colostrum intake;
- Minimizes attachment and therefore the stress of separation;
- Minimizes the risk of mother-calf transmission of disease.

Late separation, i.e. from 3 days to 3 months after bith:
- Facilitates mother-calf bonding;
- Allows the cow to dry and stimulate her calf;
- Studies have shown greater weight gain and better health of the calf after 14 days;

If separation takes place after 24 hours, it should be done gradually to minimize the stress of separation (e.g. barrier separating cow and calf, cover the udder). In addition, the calf must be well nourished to reduce the stress of separation and thus, it will not seek out the udder.

5. Milk Feeding

5.1. Milk Feeding Plan

OBJECTIVES OF THE TOOL:
- Verify the quantity, duration and method of milk feeding
- Encourage the producer to follow a feeding plan, to increase the quantities and to allow the calf to suckle
- Verify the cleanliness of the bucket and the teat

GOOD PRACTICES:
We recommend **ad libitum feeding and fractionated meals**. If the producer does not use an automatic feeder, we recommend three meals a day. If using the traditional system of two meals a day, it is recommended to feed at least 4 L in the morning and 4 L in the evening for large breeds (i.e. 8 L a day) and at least 2.5 L in the morning and 2.5 L in the evening for small breeds (i.e. 5 L a day)

The producer must control and track the quantities fed. Diarrhea has nothing to do with the quantity fed, but rather with the bacteriologic quality of the milk provided, particularly cleanliness of the pail. In addition, the quantity should be increased gradually if the calf has not been accustomed from birth to ad libitum feeding.

We recommend increasing the quantity fed with the size of the calf and not rationing the calf in the first weeks of life. In fact, inadequate feeding has the following negative effects: reduction of immune functions, weight gain losses or stagnation, failure to satisfy hunger.

In terms of method, we recommend giving **the largest quantity possible in 3 daily meals** or to use other techniques which allow **increasing the number of meals per day**: an automatic feeder is a good solution for this purpose.

We recommend **access to suckling** for various reasons because suckling is a natural behaviour of the calf and has been linked to several advantages:

- Contributes directly to satiety;
- Contributes to the secretion of hormones (insulin and CCK) important for digestion and satiety;
- Increases resting and sleeping time for the calves;
- Reduces sucking between calves and other non-productive sucking (e.g. sucking parts of the pen, etc.).

The main disadvantage of an **automatic feeder** is cost, but it has many advantages:

- When group housing is used, the feeder reduces work time compared to individual housing;
- The feeder makes it possible to distribute the daily ration in small portions throughout the day, which increases the quantity provided to the calf without forcing the calf to ingest large quantities at every meal (which is closer to natural suckling behaviour);
- The feeder allows the producer to track the quantity consumed by each calf individually in order to identify calves that may be experiencing problems.

Other options are available, for example: a large bucket equipped with several nipples, a less costly solution but with the same advantages as an automatic feeder. However, its drawback is the greater maintenance required.

5.2. Milk Feed

OBJECTIVES OF THE TOOL:
- Verify the **type** of milk feeding used
- Encourage the producer **not to use unpasteurized milk from cows under antibiotic treatment or from cows during the withdrawal period.**

GOOD PRACTICES:
We recommend giving **fresh milk or, where applicable, a good milk replacer**. We recommend not giving hospital milk (transmission of pathogens, development of antibiotic resistance), idem for milk with blood. **Pasteurization** is a solution.

While milk replacers have improved, whole milk remains a good source of nutrients. In addition, milk replacers do not contain certain hormones and growth factors found in whole milk.

5.3. Access to Water

OBJECTIVES OF THE TOOL:
- Verify the **age** of access to water and the watering **method**
- Encourage the producer to provide access to water **as early as possible**

GOOD PRACTICES:
Calves must have **free (unlimited) access to clean water no later than day 2.**

5.4. Access to Solid Feed

OBJECTIVES OF THE TOOL:
- Verify the **age** of access, the **type** and **method** of feeding solid food
- Encourage the producer to follow a **feeding plan**

GOOD PRACTICES:
We recommend that the producer follow a **feeding plan recommended by a qualified feed advisor** (technologist or agronomist) and as well as tracking the quantities fed and reviewing the rations as the animal grows.

Calves must have access to balanced feed based mainly on a concentrate beginning in the first week of life; providing excellent quality hay is also recommended.

6. Weaning

6.1. Criteria

OBJECTIVES OF THE TOOL:
- Verify the weaning criteria chosen
- Encourage the producer to **adapt his weaning strategy** to reduce the associated stress

GOOD PRACTICES:
We recommend that the animal be weaned by reducing milk starting at 6 weeks (minimum) with weaning completed at 8 weeks (minimum) to allow 10 days of adaptation. We recognize that there **are some advantages to late weaning**; in fact, at 12 weeks, the animal is more ready for the transition in feed and this practice thereby avoids weight losses.

6.2. Method

OBJECTIVES OF THE TOOL:
- Verify the weaning method used
- Encourage the producer to adopt **gradual weaning**

GOOD PRACTICES:
We recommend that the producer **adopt gradual weaning** in order to minimize stress and growth stagnation. The recommended practice is weaning over 10 days by gradually reducing the quantity fed; therefore the optimum would be to reduce starting at week 7 (42 days of life). An example for Holstein calves would be: feeding 8 L, then 4 L for 5 days and 2 L for a second period of 5 days, ending with 0 L.

7. Calf Housing

7.1. Type

OBJECTIVES OF THE TOOL:
- Verify that the housing is **adapted** to the calf's needs
- Encourage the producer to use **group housing** for his calves

GOOD PRACTICES:
The housing must allow the animal **to be free to move, rest, have social contacts and remain clean and dry**.

The type of housing and how it is managed by the producer will have an impact on the animal's comfort.
We do not recommend tying for growing animals. The lack of exercise affects growth and health (e.g. quality of the bones, muscles and cardiovascular condition).

We recommend **group housing for unweaned calves**. The recommended group size is a small (5-10 calves), homogeneous group.

If individual housing is used during the first days of life (to control colostrum intake, verify the transfer of immunity, facilitate dehorning, etc.), the calves are sufficiently "mature" after 1 week to be placed in a group.

To minimize the risks of competition within a group, sufficient access to resources (food, housing, etc.) must be provided. Other techniques are: minimizing age variations among animals as well as promoting group stability (minimize successive introductions of animals). Ad libitum feeding greatly reduces competition.

Individual housing of calves prevents social contacts as well as development of the ability to interact in a group (necessary for adult animals) and limits opportunities for movement (e.g. jumping or running). Lack of exercise affects growth and health (e.g. quality of the bones, muscles and cardiovascular condition). Indeed, individual stalls are too narrow to even allow the animal to turn around. The European Union has banned individual housing of calves after eight weeks.

Individual housing also has certain advantages: minimizes the transmission of infectious diseases by preventing contacts between calves, may facilitate the detection and treatment of diseases, and prevents competition for access to food. However, studies today show that housing management (cleanliness, proper ventilation, food intake) and calf immunity are more important factors in disease prevention. Unweaned calves may be kept in small groups (5-10 calves) without increasing disease problems provided that the housing, feeding and individual monitoring are appropriate.

7.2. Caracteristics

OBJECTIVES OF THE TOOL:
- Verify that the calf's housing is **appropriate** and **properly maintained**
- Encourage the producer to provide **the calf** with a **clean** and **comfortable** environment

GOOD PRACTICES:
The housing must allow the animal to be free to move, rest, have social contacts and remain clean and dry.

We recommend **careful housing management**. In terms of recommended practices between each calf/group, we suggest, from the best to the least recommended practice, in order from 1 to 3:

1) Disinfect the area (the best practice),
2) At least change the bedding,
3) Unacceptable to do nothing at all.

The management of cleanliness includes the bedding as well as the walls (moulds, dust, feces).

Concerning the **type of floor surface and quantity of bedding**, we recommend a clean and dry surface; the protection against cold provided by the bedding is important, particularly in a cold environment.

Concerning **environmental factors such as ventilation, humidity, temperature and light,** we recommend avoiding draughts and avoiding temperatures below 5°C (causes increased mortality). Recommendations are given in the *Guide des bovins laitiers – Nouvelle édition*.

Concerning **housing dimensions,** we recommend allocating a minimum space of 2.2 to 3 m^2 (24 to 32 ft^2) per animal. (*Guide des bovins laitiers du CRAAQ. 2008. Table 5. P. 166).*

8. Heifer Feeding

8.1. Access to Water

OBJECTIVES OF THE TOOL:
- Verify that the heifers have access to water
- Encourage the producer to provide **permanent access to clean water**

GOOD PRACTICES:
We recommend **permanent access to clean water** (functional waterers, in sufficient number to avoid conflicts at the waterer and therefore water restriction for the animals; water flow must be sufficient to meet the animals' needs – the *Guide des bovins laitiers – Nouvelle édition* provides figures for these various aspects based on the animal's age).

8.2. Availability of Solid Feeds

OBJECTIVES OF THE TOOL:
- Verify that the heifers have permanent access to forage
- Encourage the producer to follow a feeding plan
- Verify cleanliness and accessibility of forage troughs

GOOD PRACTICES:
We recommend that the producer follow a **feeding plan recommended by a qualified feed advisor** (technologist or agronomist) and as well as monitoring quantities fed and reviewing the rations as the animal grows.

We recommend **permanent access to forage** (adequate number and size of feeding troughs to avoid any restriction of access to food/food intake for all the animals in the housing); the animals must not suffer from hunger.

The producer must **control and track the quantities fed**.

The producer must **monitor individual consumption and reformulate his rations based on the animals' growth** (adaptation to needs).

9. Heifer Housing

9.1. Type

OBJECTIVES OF THE TOOL:
- Verify that the housing is **adapted** to the heifer's needs
- Encourage the producer to select the appropriate method for housing his heifers

GOOD PRACTICES:
The type of housing selected must allow the animal to be free to move, rest, have social contacts and also to remain clean and dry.

We do not recommend tying for growing animals. The lack of exercise affects growth and health (e.g. quality of the bones, muscles and cardiovascular condition). However, **we recommend adaptation of the animals before calving (minimum 3 weeks) for those that will be tied in their productive life** (e.g. adaptation to housing could take place at the same time as adaptation to the feed ration).

In terms of group size, we **recommend small groups** (less than 20 individuals) for the older animals in order to minimize aggressive behaviour (establishment of a hierarchy, access to resources). Grouping the animals by weight can help to minimize aggressive behaviour.

The Guide des bovins laitiers du CRAAQ 2008 (table 3, page 165) proposes the following group sizes :
3 to 4 months of age = 3 to 5 individuals/group;
5 to 8 months of age = 6 to 12 individuals/group;
9 months of age and older = 10 to 20 individuals/group.

9.2. Caracteristics

OBJECTIVES OF THE TOOL:
- Verify that the calf's housing is **appropriate** and **properly maintained**
- Encourage the producer to provide a **clean** and **comfortable** environment

GOOD PRACTICES:
We recommend **careful housing management**. In terms of recommended practices between each calf/group, we suggest, from the best to the least recommended practice, in order from 1 to 3:
1) Disinfect the area (the best practice),
2) At least change the bedding,
3) Unacceptable to do nothing at all.
The management of cleanliness includes the bedding as well as the walls (moulds, dust, feces).

Concerning the **type of floor surface and quantity of bedding**, we recommend a clean and dry surface; the protection against cold provided by the bedding is important, particularly in a cold environment.

The type of bedding (capacity to absorb shock) can affect the animals' rest (animals heavier than unweaned animals) and also minimize injuries. Concrete without bedding should be avoided for the sleeping area.

Concerning **environmental factors such as ventilation, humidity, temperature and light,** we recommend avoiding draughts and temperatures below 5°C (causes increased mortality). Recommendations are given in the *Guide des bovins laitiers. CRAAQ. 2008.* We

recommend thath the producer regularly (every other year) asks for verification of the ventilation system, air quality, protoperiod and light intensity by a qualified advisor.

Concerning **housing dimensions,** we recommend allocating a minimum amount of space per animal, adequate dimensions of stalls and chains (tie stalls) Appendix 2 presents the references used in the tool for the evaluation of housing dimensions (Guide de bovins laitiers du CRAAQ, 2008, Table 5 p. 166; Table 4a p. 234; and Table 5 p. 253).

The housing **must not prevent animals from lying down to sleep**: it must provide enough sleeping space (individual space) for each animal.

9.3. Pasture and exercice

OBJECTIVES OF THE TOOL

- Verify whether the animals have the opportunity to **move around**
- Encourage the producer to **provide access to pasture**

GOOD PRACTICES:

We recommend that the animals should **be free to move** (walk, run, interact, etc.).

Access to pasture is a good way to meet these conditions, provided that the pasture is properly managed. We recommend that pastured animals receive supplements (i.e. beware of poor quality pastures that may be inadequate to meet the animals' needs), the availability of shelters in case of bad weather and heat stress, and an adequate supply of water.

We recommend **exercise** since lack of exercise affects growth and health (e.g. quality of the bones, muscles and cardiovascular condition).

10. General Monitoring of Animals

10.1. Mortality and Morbidity

OBJECTIVES OF THE TOOL

- Verify that the mortality and morbidity record was properly completed
- Encourage the producer to keep a **strict record** of health episodes and to carry out **individual monitoring**
- Encourage the producer to have a **biosecurity protocol** on the farm, **written and available** on all points concerning calf and heifers.

GOOD PRACTICES:

We recommend that the **producer maintain a strict record of disease and mortality episodes.** This record must allow him to note the disease factors identified and/or diagnosed by the veterinarian, the animals treated, as well as all the interventions carried out.

Mortality and morbidity are often too high among replacement animals on dairy farms. Careful record-keeping allows the producer to track disease episodes at the herd level (i.e. are there recurrent problems) and to discuss them with his advisors.

Careful record-keeping permits individual monitoring of the animals (e.g. is this animal that is producing less or growing less the same one that suffered from diarrhea at one week of age?)

We recommend the **establishment of an on-farm veterinary monitoring program for replacement animals**, established in conjunction with the veterinarian.

10.2. General Montoring of Animals

OBJECTIVES OF THE TOOL
- Verify whether there is a system in place for monitoring the animals' growth
- Encourage the producer to monitor growth and to regularly inspect the hooves
- Encourage the producer to monitor reproduction for heifers

GOOD PRACTICES:
We recommend that the producer conduct regular growth monitoring (the more often the better, evaluation of all animals four times during growth, i.e. every six months), including at least 2 measurements: either weight (e.g. with a girth measuring tape), height (e.g. with a livestock measuring tape) or body condition scoring (e.g. with a chart).

We recommend monitoring of hooves a least oce during the rearing period. Hoof trimming should be performed if necessary.

Concerning reproduction monitoring, e propose to start the first heifer breedings at 15 months. In addition, it is important to verify weight and height of heifers before breeding to enure optimal development stage for reproduction has been reached.

For more information...

Explanations of the scoring system and recommendations for good management strategies are described in the Code de Pratique pour le soin et la manipulation des bovins laitiers du Conseil national pour les soins aux animaux d'élevage CNSAE (2009). This Code is available (no charges) on the CNSAE web site. Complete reference is as follows:

CNSAE Conseil national pour les soins aux animaux d'élevage 2009. Code de Pratique pour le soin et la manipulation des bovins laitiers. 67 pages. Site internet : www.nfacc.ca, consulté le 23 juin 2009.

Many elements mentionned above come from the Guide « Les bovins laitiers » of which complete reference is as follows:

CRAAQ Centre de référence en agriculture et agroalimentaire du Québec. 2008. Les bovins laitiers. Quebec, QC, Canada. 1462 pages.

Additionnal References

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