

Additional file 1. PDF. Questionnaire in cow-calf contact prospective cohort study.

A questionnaire used in a prospective cohort study comparing the effects of contact duration on cow and calf performance beyond separation within herds practicing both CCC and artificial calf rearing. The questionnaire was completed in collaboration with each farmer, and addressed herd data as herd size, the farmer's method of CCC, milk allowance for artificially reared calves, herd size, and other relevant information.

General information about the herd

Herd name: _____

Producer number: _____

County: _____

Tie-stall barn ☐ Free-stall barn ☐

Milking system

AMS DeLaval ☐ AMS Lely ☐ AMS SAC ☐ Parlor ☐ Pipeline ☐

Herd size: _____

Average annual milk yield: _____

1. General information

How long has the herd had a subpopulation with cow and calf together? _____

What prompted the herd to start keeping cow and calf together?

What benefits does the herd experience from keeping cow and calf together?

What are the challenges the herd experience by keeping cows and calves together?

How are cows and calves separated after the period together?

What are the criteria used to decide whether the pair should remain together or be separated after birth?

Are cows or calves in the herd vaccinated? No ☐ Yes ☐ If so, when and against what (e.g. Rotavec corona, Bovilis bovipast): _____

Is the colostrum quality measured?

- Always ☐
- Almost always ☐
- Sometimes ☐
- Never ☐

If colostrum quality is measured, what instrument is used?

Colostrometer ☐

Handheld refractometer ☐

Digital refractometer ☐

Other: _____

What tools are used to record signs of estrus?

Estrus calendar ☐

Own notebook ☐

Mobile ☐

Do not record signs of estrus ☐

Other: _____

Environment and housing

Calving location:

Calving pen ☐

Separate ☐

Group housing ☐

Tie stall ☐

Other: _____

Bedding in the calving area

Sawdust ☐

Straw ☐

Other: _____

2. Subpopulation cow-calf

How are cows and calves kept together

In one pen alone ☐

Approximate size of the pen: _____

In a larger pen/area with several cow-calf pairs ☐

Approximate size of the area: _____

Freely in the loose housing ☐

Approximate size of the area: _____

Other: _____

How long are cows and calves kept together before they are separated? _____

Can the calf nurse other cows?

Yes ☐ No ☐

Colostrum

How is colostrum intake ensured?

- The cow and calf manage themselves, seldom help ☐
- The calf always receives colostrum from a bottle ☐
- The calf usually receives colostrum from a bottle only if it fails in nursing ☐
- The calf usually receives assistance to nurse only if it fails in nursing ☐

Milk allowance (during nursing period):

- Does the calf have free access to its dam milk (except during milking)? ☐
- Does the calf have free access to its dam only part of the day ☐ When: _____

Feed allowance (during nursing period)

In the calf creep, the calf has access to:

- Water ☐
- Silage ☐
- Hay ☐
- Concentrate ☐
- Does not have a creep: ☐
- Other: _____

From the dams' resources, the calf has access to:

- Water ☐
- Silage ☐
- Hay ☐
- Concentrate ☐
- Does not have access: ☐
- Other: _____

Do you observe that calves show interest for silage? Yes ☐ No ☐

From what age does the calf begin to show interest for:

Silage?

0-2 weeks ☐

2-4 weeks ☐

6-4 weeks ☐

>6 weeks ☐

Concentrate?

0-2 weeks ☐

2-4 weeks ☐

6-4 weeks ☐

>6 weeks ☐

Hay?

0-2 weeks ☐

2-4 weeks ☐

6-4 weeks ☐

>6 weeks ☐

Weaning/separation

Is weaning and separation from the dam done simultaneously? Yes ☐ No ☐

The calf gets access to: Milk feeder ☐

Bucket ☐

Other: _____

Cow and are separated:

Gradually ☐

Abruptly ☐

Cow and calf after separation:

Can sniff each other	Yes ☐	No ☐
Can see each other	Yes ☐	No ☐
Can hear each other	Yes ☐	No ☐

After separation, the calf is housed:

Individually	☐
In group pen	☐

3. Subpopulation conventional rearing

When are cow and calf separated?

Immediately after calving	☐
0-60 min after calving	☐
>60 min after calving	☐
After the colostrum period	☐
Other: _____	

During milk -feeding period, calves are housed:

Individually ☐

In group pen ☐

First individually for____d, the group pen ☐

Other:_____

Colostrum

How is colostrum intake ensured?

The cow and calf manage themselves, seldom help ☐

The calf always receives colostrum from a bottle ☐

The calf usually receives colostrum from a bottle only if it fails in nursing ☐

The calf usually receives assistance to nurse only if it fails in nursing ☐

Milk allowance:

How is milk offered calves?

Manually ☐

Milk feeder ☐

Other:_____

How often are calves offered milk?

0-2 weeks of age:

2 times daily ☐

3 times daily ☐

>3 times daily ☐

Ad lib. access ☐

2-4 weeks of age:

2 times daily ☐

3 times daily ☐

>3 times daily ☐

Ad lib. access ☐

4-6 weeks of age:

2 times daily ☐

3 times daily ☐

>3 times daily ☐

Ad lib. access ☐

>6 weeks of age:

2 times daily ☐

3 times daily ☐

>3 times daily ☐

Ad lib. access ☐

Milk quantity and frequency is regulated by the feeder: ☐

Feeder settings: _____

At each meal, calves are offered:

0-2 weeks of age:

0-2L ☐

2-3L ☐

3-4L ☐

Ad lib. ☐

2-4 weeks of age:

0-2L ☐

2-3L ☐

3-4L ☐

Ad lib. ☐

4-6 weeks of age:

0-2L ☐

2-3L ☐

3-4L ☐

Ad lib. ☐

>6 weeks of age:

0-2L ☐

2-3L ☐

3-4L ☐

Ad lib. ☐

Milk quantity and frequency is regulated by the feeder: ☐

What type of milk is offered the calves?

Whole milk ☐

Milk replacer ☐

Soured milk ☐

Annet: _____

Is milk with high somatic cell count given to calves?

Yes ☐

No ☐

Sometimes ☐ _____

Weaning/separation

At which age are the calves weaned? _____ weeks

Is weaning and re-housing done at the same time? Yes ☐ No ☐

Feed allowance

During the milk-feeding period, calves have access to:

Individually housed:

Water ☐

Silage ☐

Hay ☐

Concentrate ☐

Other: _____

In group pen:

Water ☐

Silage ☐

Hay ☐

Concentrate ☐

Other: _____

After weaning, calves have access to:

- Water ☐
- Silage ☐
- Hay ☐
- Concentrate ☐
- Other: _____

Other notes:
