SUMMARY

It becomes more and more common with suckling cows in today’s Swedish dairy farms. One of the main reasons for this is the increasing number of producers joining KRAV (association of organic production control) and KRAV’s rules about natural behaviour and unprocessed milk. Conventional farms are also starting to apply the system. There are several ethical and economical benefits from having suckling cows. The ethical benefits are that the calves are healthy, that they can behave naturally and develop their social behaviour both with the cows and other calves, and that they fulfil their suckling need. Economical benefits are healthy calves that grow well, cows with an increased cell amount in their milk can after some time with the calves go back to the production with a lowered cells amount, and the system only require few hours work with the calves. The need to buy dried milk is eliminated and there is no need to invest in an automatic calf-feeding system.

Before this project started, there was little knowledge available about design and technical solutions in the suckling systems, and how the different systems work on the farms. This paper present some answers to that question. The aim is to give advises and guidelines about technical solutions to farmers who want to use suckling cows in their dairy production. The solutions shall bring comfort and health to cow and calf, and give the keeper a good and rational working environment.

Through experiences gathered at the farm visits, the different types of suckling systems are described based on how they work in practice. Totally 27 Swedish and Danish farms have been visited and among them five in Denmark. Only farms that used the suckling system continuously were part of the study. The farms were selected actively to attain many types of housing and both organic and conventional farms were selected. Priority was given to bigger farms and to those who had had long experience of suckling cows. The investigation found following systems:

- Tied suckling cows, together with calves in an enclosure.
- Cubicle for loose kept suckling cows, together with calves in an enclosure.
- Deep litter for loose kept suckling cows, together with calves in an enclosure.
- Loose kept suckling cows, together with calves on bedding that was changed every day.
- Restrictive suckling (one or several suckling cows are taken to the calves twice a day)
- Calves kept loose in the barn together with the dairy cows.

Supervision is very important in a suckling system, because every calf must get sufficient amount of milk. If older and younger calves are mixed, there must not be any competition about the milk as it results in to little milk for the young ones. A good solution is to keep the youngest calves together with a suckling cow in an enclosure of their own, until about three weeks of age.

One problem that can occur in the suckling system is that the weaning can be difficult if the calves do not learn to eat concentrate properly. Therefore, it is an advantage if the older calves get a more restricted access to milk. One condition for a proper intake of
concentrate and hay is to have a secluded eating space where the cows don’t have access and the calves can eat undisturbed from the cows.

Deep litter contribute to a good environment for cow and calf and is rational for the keeper provided that a tractor can perform the manure handling. The cubicle system also works well for both keeper and animals, but the manure must daily be cleaned out from the cubicles. The restrictive system, where the suckling cows are moved to the calves twice a day, has got several advantages such as that there is no need to have a secluded laying- and eating area for the calves, it is easier to teach the calves to eat concentrate properly and the manure from the cows becomes less, but the system requires daily transport of the suckling cows to the calves. The most important factor in order to reduce working hours is to have a rational manure handling system where the keeper do not have to handle heavy manure litter by hand and where the need of daily manure handling is minimised.

Finally two design proposals, which consider the experiences and knowledge that has resulted from the visits, are presented. The first proposal shows how a conventional cubicle barn can be planned with a restrictive suckling system, deep litter and a scraped alley along the feeding alley. The second proposal is a suckling system in a cubicle barn for automatic milking, with cubicles for the suckling cows and a secluded eating- and lying area for the calves.