



Cow Power (Kracht van Koeien)

Animal welfare, animal health, the environment and economics in dairy husbandry are much more compatible than we often assume. That is the conclusion of the Cow Power (Kracht van Koeien) project of the Animal Sciences Group of Wageningen UR. The design concepts De Meent, De Meent XL, De Bronck and Amstelmelk show how this could be realised. They are stepping stones towards sustainable dairy husbandry.

There is still a long way to go from theory and paper to reality - a process of learning, experimenting and acting is required. Next to the dairy farmer, all the other parties who are interested in fully sustainable dairy husbandry have to take action. This flyer briefly describes the results of Cow Power. Its aim is to invite further reading and encourage initiatives.

Dairy husbandry sustainable in every respect

According to the Minister of Agriculture, livestock husbandry is to be fully sustainable by 2023. The final goal is a Dutch livestock production that is economically efficient with quality production, which is not harmful to the environment, where animals can live in comfort and which is highly appreciated by society. That is quite ambitious! Especially, since economics, the environment and animal welfare often seem to be in contradiction. But they're not by definition: they become opposites when one tries to improve on them separately.

A turnaround in ways of thinking and acting

Dairy husbandry is an intricate system where farmer, cow, soil, crop, capital, energy and nutrients are interconnected in many ways. Pulling one string might have consequences elsewhere - in unexpected places. Combining the demands of the cow and the farmer with those of citizens and the environment can only be successful if we have the courage to drop our standard ways of thinking and acting. That is what system innovation is about: a turnaround in thinking and acting.

Turnaround of four aspects

The design concepts are based on four radical turnarounds in thinking and acting:



1. Satisfy all the demands of the cows instead of giving them what happens to be left over



2. Consider minerals to be valuable resources instead of waste



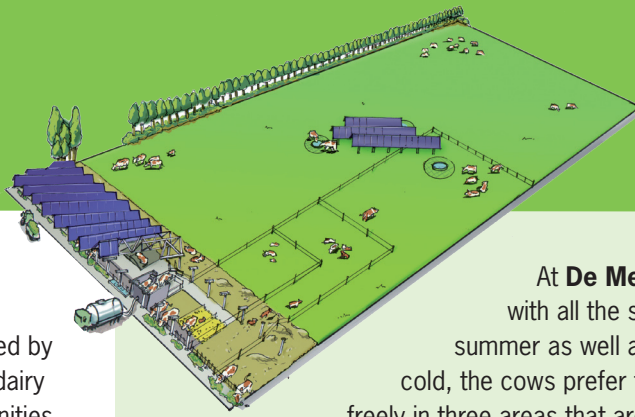
3. Share capital and labour with others instead of dividing them over more cows



4. See the soil as a productive ecosystem instead of as a dead substrate

The promise

These turnarounds are applied coherently in the four design concepts. These concepts demonstrate that substantial improvements are possible for the animal, the environment, the farmer and society as a whole. Such improvements include a much better animal welfare, a considerable reduction in ammonia emission, a significant decrease in greenhouse gas emissions, equal production costs, animal husbandry that corresponds to societal ideal images and is applicable near nature reserves or cities.



What can you do?

Let this flyer be an invitation - an invitation to anybody who is inspired by the possibility of fully sustainable dairy husbandry, and who sees opportunities to make a contribution. **Send for the extensive brochure today, or visit our website.**

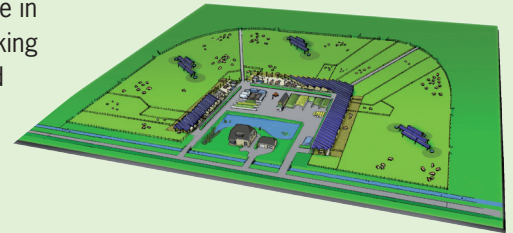
The Cow Power project team will continue to work as an intermediary for people who want to help develop this future vision. So, we welcome all the initiatives that can bring it closer.

“No blueprints but stepping stones for system innovation”

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At **De Meent** fifty cows are kept together as a herd with all the space they need: 360 m² per animal in summer as well as in winter. In dry weather when it is not too cold, the cows prefer to be outside. At De Meent they can move freely in three areas that are interconnected over the full width: the green outdoor range, the shelter and the sand bed. The concept does not provide for a traditional barn. De Meent has been set up to harvest minerals and so to reduce losses and emissions. The dairy farm or a nearby arable farm also grows other crops in addition to grass and forage maize, for a varied and balanced ration for the cow. Fertilizer is not needed as the harvested urine is processed into liquid fertilizer replacers that contain mineral nitrogen. Many of the solutions that come from De Meent are also applied in the other design concepts.

De **Meent XL** is a combination of three independent units of fifty cows from De Meent. The herds live in separate areas so as to minimise any ranking order conflicts. Farm house, farmyard and storage facilities are at the centre of the system. De Meent XL fits well into a 1-hectare building block.



The emphasis at **De Bronck** is the ability of the cows to move around. Feeding, resting, milking and young stock rearing are all done at different locations, at a few hundred yards apart. In this way, a large 200-cow unit fits well into a small-scale landscape.

Amstelmelk is a network of farms at a stone's throw from an urban area. Cooperation is a major feature and machines and installations are shared. In this way it is possible to realise labour-saving modernisations without the need for each individual farm to expand in order to finance these. The advantage of this concept is that labour demand and labour use are more flexible. Once again, physical exercise of the cow is the central issue in this concept.



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The four concepts demonstrate how sustainable dairy husbandry can be realised if a completely new start is made. But making a new start is not absolutely necessary. There are surprisingly many possibilities to modify an existing farm by adopting a number of principles and solutions from these design concepts.