



Hjem > Promilleafgiftsfonden > 2011 > Økologiske matrixbrug > **Organic matrix farms – the building stones of the future**

Organic matrix farms – the building stones of the future

Matrix farms are co-operations between farms that contribute to a sustainable agribusiness and to local supply of healthy foodstuffs. A collaborative project prepares the ground for development of organic matrix farms. Promilleafgiftsfonden for landbrug

For decades Denmark has had one of the highest percentages of organic farms in the world. In 2010 about 7% of the total number of farms were organic and about 7% of the total acreage devoted to agriculture were organic. During the recent 5 years the development has been a matter of great concern, though. During this period the number of organic farms has been at a standstill or even decreasing. This development is surprising viewed in the light that the organic market share has been increasing in the same period.

Ambitious plan for organic farming

Many initiatives to increase sales have been launched, but without success. In 2010 the Danish Government declared an ambitious intent that the percentage of organic farms should reach 15% in 2020. This development is to be market-driven and thus without any further direct grants.

This challenge has made more think alternatively in order to provide the settings for push-starting the conversion. In brief most ideas are about developing models that can offer attractive solutions for both coming organic farmers as well as for the community.

One of the hottest ideas right now is about organic matrix farms. An idea is that organic farms enter into larger, closer and more binding producer cooperation which might include matrix structures of 3-6,000 hectares.

The organic set of values is about thinking of overall solutions where respect to environment, nature, animal welfare and human beings are incorporated and at the same time have a sustainable and effective agricultural production, where natural resources are exploited in the best possible way and where loss of nutrients is limited as much as possible.

Possibilities in the country

Organic matrix farms allow exploitation and circulation of nutrients, optimum exploitation of straw and manure, common large scale rotations of crops with many years' rotations, provide basis for cost-effective bio energy plants, improved logistics and transport, common marketing etc. This will impact the running in the field as well as in the stable. However, the matrix farms might also include decentralised micro processing plants for food firms, marketing networks and give a better coherence in the value chain and an improved CO2 balance. These are all elements central to a sustainable development of our rural districts, where the wish for more jobs and settlers are essential preconditions for the good life in the country. The organic agricultural production will benefit from the establishment of matrix farms both in terms of increased financial and environmental (organic) robustness.

Through development of the organic production we have strived for a sustainable production that fulfils our set of values in the best possible way. Experiences from Southern Germany and Switzerland now show that some of the oldest European organic areas are having difficulties in keeping the production level and the yields, and questions are now raised whether the organic production in its present shape should strive for more sustainability.

The dawning recognition that some vital choices soon must be made can also be seen in Denmark and more organic farmers acknowledge that new ways of production and structures must be chosen that in many ways break away from the present way of thinking. A development of solutions that can shape the future's building stones for a sustainable future.

New types of farms

Already now the interest in these new models is considerable among present organic farmers and the widely held view is that the true models can offer a solution to future farmers and to the society in general which is a real alternative to the today's structural development. This structural development moves towards larger and larger farms with more industrialisation and specialisation, which is inconsistent with the organic set of values. The organic farmers therefore have to think "out of the box" and their wish is to bring forward real path-breaking thoughts and models.

Thomas Harttung, an organic farmer and chairman of e.g. ICROFS (the organic research centre) challenges everybody with the idea that all organic matrix farms should be 80/20 farms and in this way climatic neutral. (If everybody consumes 80% vegetable and 20% animal, the food consumption's climatic effect would be neutral. Today the division is 50/50). Furthermore he has experienced matrix farms that are much more multifarious than agriculture today and where no single production exceeds more than 5%.

Pioneering work

In 2010 the Knowledge Centre for Agriculture launched a 3-year development project where the purpose is to more definitely describe the possibilities of matrix structures and how to obtain these. In June a feature day was held at Ledreborg Castle in Lejre, where the first catalogue of ideas was prepared by a wide range of resource personnel from the trade and related trades. Based on this year's work an inspiration and debate booklet about organic matrix farms will be published.

The forward-looking work will be divided into two levels. First level is the general model-level, where the matrix farms' superior value to society is developed and analysed. There is also room for larger theoretical initiatives and ways of thinking. Experiences from CSA (Community Supported Agriculture) models abroad will also be included.

The second level is more production directed. The focus will be to determine possibilities and problems which large scale cooperation brings. We will gather the hands-on experiences within e.g. common rotations of crops and weed control, supply of manure, joint ownership of machinery and supply of fodder. In addition there are large challenges such as financing, financial management and legal agreements and obligations connected to matrix farms.

In order to expose the exciting possibilities the Knowledge Centre for Agriculture has invited interested parties to participate in this work. In particular we have made an agreement with Lejre municipality, so that the organic matrix farms can be adapted to the public planning and thus contribute to a sustainable development of rural districts.

Example of a small 80/20 matrix farm:

- 5-10 farms supply 2,000 adults and breeding
- A total of 500 ha with 0.5 animal unit per ha
- 100 vegetables/100 fruits/berries/200 grain/ 100 grass
- 100 milking cows plus breeding = 0.25 animal unit

- Seasonal production of 500 pigs
- Seasonal production of 10,000 broilers
- Seasonal production of 2,000 geese and ducks
- 1,000 laying hens
- Maximum processing at the farms

Source: Thomas Harttung