

The importance of world food production systems: Healthy food for all people

The importance of reviewing world food production systems for mankind is examined by Horticulturist at the Swedish University of Agriculture, Håkan Sandin in terms of the need for humanity to eat more healthy food and to produce it in a way that does not harm nature

Our world food production systems need to be reviewed from several perspectives, the two most important ones being obvious as follows:

- Firstly, humanity must learn to eat more healthy food, not to overload the healthcare system.
- Secondly, we must learn to produce food that does not harm nature.

These two aspects meet in a complete harmony and are neither costly nor difficult to achieve for mankind.

Healthy food

There is no doubt that today we know how to consume and what is useful for man to eat. It is useful and environmentally friendly and sustainable to eat in terms of:

- Fish;
- Vegetables and;
- Legumes.

Nevertheless, we strive to eat more of what we know is useless to us. This can be expressed very easily in two sentences:

- It is unhealthy to eat too much and;

- We should not eat a lot of carbohydrates.

The reason why we eat too much is not easily explained. One explanation, however, is that there was a huge lack of food in the world some decades ago. The easiest way to deal with this was to cultivate large areas of arable land to produce what we call staple crops, on a large scale, using machines. These staple crops contain very large amounts of carbohydrates and can quickly satisfy a growing population of people in the world and can also be used for animal feed to produce meat and milk. By that time, this strategy solved a threatening hunger catastrophe. These crops are corn, rice, wheat, starch banana, cassava, sweet potatoes and others. These crops are also easy to store and distribute worldwide.

Today, the world is not threatened by a worldwide hunger catastrophe and a decreasing number of people suffer from starvation. Therefore, we must ask ourselves the question. **We can change people's way of eating and their views on what to eat?**

Energy

To produce food, we must use large quantities of energy, in addition, on an ever-increasing scale. The reason that the need for energy is increasing is that more and more people move to

the city and that the population is growing. Today, more than 50% of the world's population lives in cities.

The world's production system is changing at a furious pace and more and more energy-consuming means of production, such as fertilisers and pesticides are used.

Since we still use the same areas to produce our food, like when we lived in rural areas ourselves, it requires many, long and costly methods of transport to the city to be consumed.

Our consumption patterns are also changing. We prefer to buy our food in food bags distributed to our homes. As a result, the transport in our cities has increased further and dramatically.

The conclusion of this reasoning is that transport on our roads and in our cities is increasing ever more. The question we must ask ourselves is then: **Can we save energy when producing food?**

Environment

The large-scale machine-based agriculture is harmful to both our nature and humanity. It is simply not sustainable. It can be simply expressed in the following five points:

- We over fertilise our nature with phosphorus and nitrogen and other nutrients;



500 ha tomatoes, cucumber, letuces and herbs. Consumption by today 2018.

In Sweden 500 hectares are enough to be self-sufficient for vegetables in greenhouses

500 hectares illuminated year-round production costs around SEK 10 billion in total investments and we have full environmental control

- We consume finite resources, such as phosphorus and oil, at a furious rate;
- We irreversibly poison our ecosystems;
- We reduce the diversity of plants and animals in nature and;
- We overconsume land resources.

We must, therefore, ask ourselves the question: **Can we save the environment when producing food?**

Intensive, circular and symbiotic food production

The answer is both simple as obvious. We must close the systems and make them completely circular and symbiotic. To understand this reasoning and the continued articles in this series, there is some statement that we all need to analyse and relate to. Over time we can do the following:

- We can change people's eating habits!
- We dramatically reduce the need for arable land to produce food!
- We can reduce transports and start to produce food locally!

- We can develop intensive, symbiotic, fully closed production systems which are more environmentally friendly than large-scale production in arable land!
- We can produce renewable fuels and lubricants using ecologically sustainable renewable materials!
- We can develop ecologically sustainable fertilisers and sustainable systems for the nutritional supply of food crops!

- We can develop ecologically sustainable plant protection agents and systems for the protection of food crops against diseases and pests!

• And so, on

I mean, that this can be done using the full capacity of nature and the innovative ability of humanity itself. The challenge, however, is to do this without destroying our living space on the planet earth.

Food production in houses where people live

Producing our food in-house, where people live, is undoubtedly part of the solution by doing the following:

- Producing fish and vegetables in-house, so that we provide humanity with the food that is useful to us and best for nature. I realise that many will protest, based on wanting to eat bread and meat, but it's about how we must change our habits over time so that we do not destroy our living space here on planet earth.
- By producing food in-house, we can place them exactly where we wish and where we have full control over all flows, giving us possibilities to develop circular and symbiotic production systems.
- Place them in urban areas where people live today, we reduce the need for transportation and can also benefit from surplus heat, electricity, organic materials, leftovers and other unused resources. Then we can also more easily employ people who have no work.
- By producing in-house, we are open to endless innovation possibilities by using high technology and ingenious solutions that the world has not seen.



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