



Market Gardening

A successful tradition revitalized

GRAND GARTEN

Gemüsevielfalt aus Handarbeit

Background

There is no question about it. Human society is facing dramatic challenges. Beside of well-known problems like climate change, the loss of biodiversity or feeding a growing population to name only a few, within the last weeks a new problem arrived. Corona virus is spreading around the world and is destroying the way we live and do business. The term Systematic Change is no longer a gladly used buzzword, but has to happen **now**. Considering Corona only for the food sector, we need to increase self-sufficiency, but at the same time, we have to increase the resilience of our food system and the health status and immune system of our citizens to reduce the risk of vulnerability to get ill. Reaching all of these goals at the same time (and even more) needs a holistic agricultural rethinking.

“Market Gardening” is probably **one of the most promising answers** to these problems at least for the vegetable and fruit sector. The powerful combination of reliable traditional methods, decades of advancement and modern technique holds great potential. We consider this agricultural principle to be a **Disruptive Innovation** in the agricultural sector which could subsequently have an impact on various other parts of society whilst being applicable worldwide.



Definition

The description of the English Version of Wikipedia sounds describes the “**Market Garden**” itself as small-scale agricultural enterprise more detailed, clearly differentiating it from large industrialized farms: *“A market garden is the relatively small-scale production of fruits, vegetables and flowers as cash crops, frequently sold directly to consumers and restaurants. The diversity of crops grown on a small area of land, typically, from under one acre (0.4 ha) to a few acres, or sometimes in greenhouses distinguishes it from other types of farming. [...] Unlike large, industrial farms, which practice monoculture and mechanization, many different crops and varieties are grown and more manual labor and gardening techniques are used.”*

Characteristics

The concept of Market Gardening is based on the efficient use of small pieces of agricultural land (approx. 0,1 to 3 hectares) by means of hand labour and simple mechanized tools – with the aim of generating high profits through selling a large variety of high-quality vegetables (but also herbs and fruits) directly to customers. The rather high labor costs are compensated through direct sales.

Beside the large crop diversity, **permanent beds** are another distinctive feature of a Market Garden. Instead of the typical planting in rows where the crops are spaced according to the dimensions of tractors and weeding machinery, crops are grown in permanent beds. This means that once the bed structure is established, it stays there for many years without being changed. From that point on, walking should just happen on the pathways in between.

Due to the densely planted growing space, the systematically planned, nearly uninterrupted succession of various crops on one and the same bed while enhancing soil health by adding large amounts of organic matter, this method of using permanent beds is called "**bio-intensive**".

Detailed planning is critical to the success of a Market Garden. The required production volume, the complex succession of crops throughout the season and actually the precise dates for seeding, planting, cultivating and harvesting are planned ahead before the season starts. That way it is possible to harvest at least two, in many cases even four or five crops per bed within one season. In Market Gardening it is not about producing more and more on ever-growing areas, but rather producing better and better on small pieces of land. **In a nutshell: growing better and more on less land.**

Because of the conscious renunciation of heavy and expensive machinery **initial investments** are kept down, the entry barrier for young people interested in agriculture is noticeably lowered and the payback period is shortened.

As a result, **considerable profit** can be generated on the basis of several causes. Direct customer contact, the wide product range, rare crop varieties, exceptional freshness and premium quality are key drivers for the customer's willingness to pay. Beyond that also the generally higher quantity of crops planted on small spaces as well as the reduced machine application lead to high profitability.



Influence

The existence of many of those Market Gardens could improve regional added value and food sovereignty, would strengthen rural areas and upgrade the profession of a farmer. Young people would find a realistic chance again for making a living from farming, the fast termination of farms worldwide could be slowed down or maybe even stopped. The relation between consumers and food producers as well as the understanding of necessary natural resources and underlying processes would be strengthened. **Moreover, public health would be sustainably enhanced by high-quality organic food.** This is extremely important if we consider the resilience against Corona virus.

From an **ecological point of view**, the system Market Garden has many advantages. Reduced tillage and the renunciation of heavy machinery lead to less soil compaction and reduced risk of erosion. The deliberate enhancement of soil fertility and soil health in Market Gardening is not just a necessity to ensure high productivity, but also an impactful measure for improving plant health, biodiversity and carbon sequestration. The result of all this are high yields in premium quality and the formation of stable ecosystems with a remarkable high resilience.

This **resilience** – the ability of a system to cushion negative impacts – concerning Corona virus, climate change, food sovereignty or blackout-risks is probably one of the biggest strengths of Market Gardening.

This is based on several factors:

- a large variety of crops is able to compensate weather-related crop failures and captivates due to less disease- and pest pressure, whereas monocultures show a high vulnerability towards risks like that
- fertile soil is able to store water better and longer, naturally provides plants with all necessary nutrients, improves plant health and reduces disease- and pest pressure in the long run
- the direct supply of regional markets reduces the dependence on imported food and contributes to food security
- the reduced consumption (and in some cases even the renunciation) of fuel as well as the strong focus on hand labor supports the security of regional food supply even in the case of a blackout or other civic emergencies



The next steps

As proven and rediscovered vegetable garden tradition, Market Gardening holds a large number of potentials to be utilized. Considering the Sustainable Development Goals (SDGs) of the United Nations, for example, we see direct and indirect influences of the system Market Gardening on 11 out of 17 goals. There are such diverse positive effects on society and environment that it seems to be impossible to complete a sufficient description of the model at this stage. Now science is in demand to advance **research and development** on this successful concept. The USB of the GRAND GARTEN is, that beside of production, we are also doing research and demonstration. Therefore, we are offering our knowhow, experience and infrastructure and act as a practice partner to explore new methods, test innovative approaches and demonstrate results to interested parties. We are closely cooperating with Wageningen University (NL), Rodale Institute (USA), and many other Austrian and European institutions to make our common vision happen:

Establish a Market Garden in every larger village till 2035!