

# ORGANIC APICULTURE - CHANCES AND PERSPECTIVES IN AN EMERGING MARKET (NOTES)

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## **ABSTRACT**

*In times of economic stagnancy in many sectors the organic market turned out to be continously growth-oriented and promising since quite a number of years now.*

*Guidelines for organic vegetable production were first implemented during the 80ies by private associations. Rising consumer's demand and confusing rules on what is "organic" did finally result in a legal framework to protect the end user from being deceived, and give the producer, processor and exporter a binding framework. In Europe since 1999 apiculture is part of this legislation, and worldwide other countries did or will follow.*

*As an example the EC-regulation 2092/91 is presented. It's focus is not just on product quality but also on sustaining bee's vitality and health as well as beekeeper's impact on the environment.*

*Topics are general principles, bee's origin, siting of apiaries, disease prevention and treatment, husbandry management practise, characteristics of hives and materials, identification and documentation.*

*Necessary administrative action, possible investment, training, conversion operations and problems, managing resp. building cooperative structures and capacities ( group certification ) are described as well as - last but not least - economic issues.*

## **INTRODUCTION**

What is organic? What means organic? Is organic all that is not inorganic?

Organic has become a very common term, and is actually has quite a number of different meanings.

Talking about organic products from agri- or apiculture "organic" needs an introduction, a definition to understand what we are talking about when using this term.

### **1. HISTORY**

In many countries there were enormous changes and shifts in the structure of economics of food production during the past few decades. While today's rural

population is still related to basic sources and resources, a considerable and fast growing part of mankind is living in cities, hundreds of them having several million inhabitants.

Dependant on the products from farmers, gardeners, cattle breeders, fishers, beekeepers, services of wholesale traders, im- or exporters, processors, packagers, retailers, transporters the consumer has become just one - the last - link in an decreasingly traceable supply chain.

The increasing demand of a growing population with sometimes dramatic changes in the living spaces and habitats, the rapid development of agricultural practice, the food, engineering, biology and information sciences, the development of a mass-production oriented food industry, changing eating habits are just a few of causes. Also the quality of our nutrition has been subject to changes. Diversity, high hygienic standards, availability, cheap price levels are something rather familiar for many consumers at least in the so-called developed countries.

But it happened in just in these prospering countries only 2 or 3 decades ago that a growing group of consumers became aware of the less desirable implications of modern nutrition, being revealed through civilization diseases, allergies, unbalanced diet, pesticide residues,

loss of taste and contents in our daily food, numerous food scandals (e.g. findings of not allowed hormones or antibiotics, BSE), thread on ecological systems through monocultivation, with all their impacts and consequences for the quality of life in general.

By this a demand for an alternative food quality came up. Consumers began to ask about the origin of the food, if contamination might be suspected, if there was any depreciation by processing or storing, if it was produced under conditions close to nature, in a word: if it is healthy and wholesome not only for man but also for the beings and the environment it comes from.

What had been only natural for mankind since ever had become something special within years.

Where there is a demand the supply will follow. While the rural consumer had the chance to stay in direct contact with the producer and build up a personal relationship based on confidence and understanding, the urban consumer was served with "biologic", "organic", "natural", "health", "controlled" food. But besides producer associations, whose members did produce according to strict guidelines nobody did or had to guarantee that these labels were actually proving a premium quality justifying a premium price.

For the pioneers of the “new” agricultural methods “organic” production had to fulfill certain criterions: it had to be economically viable and ecologically and socially sound and sustainable.

Projection 1

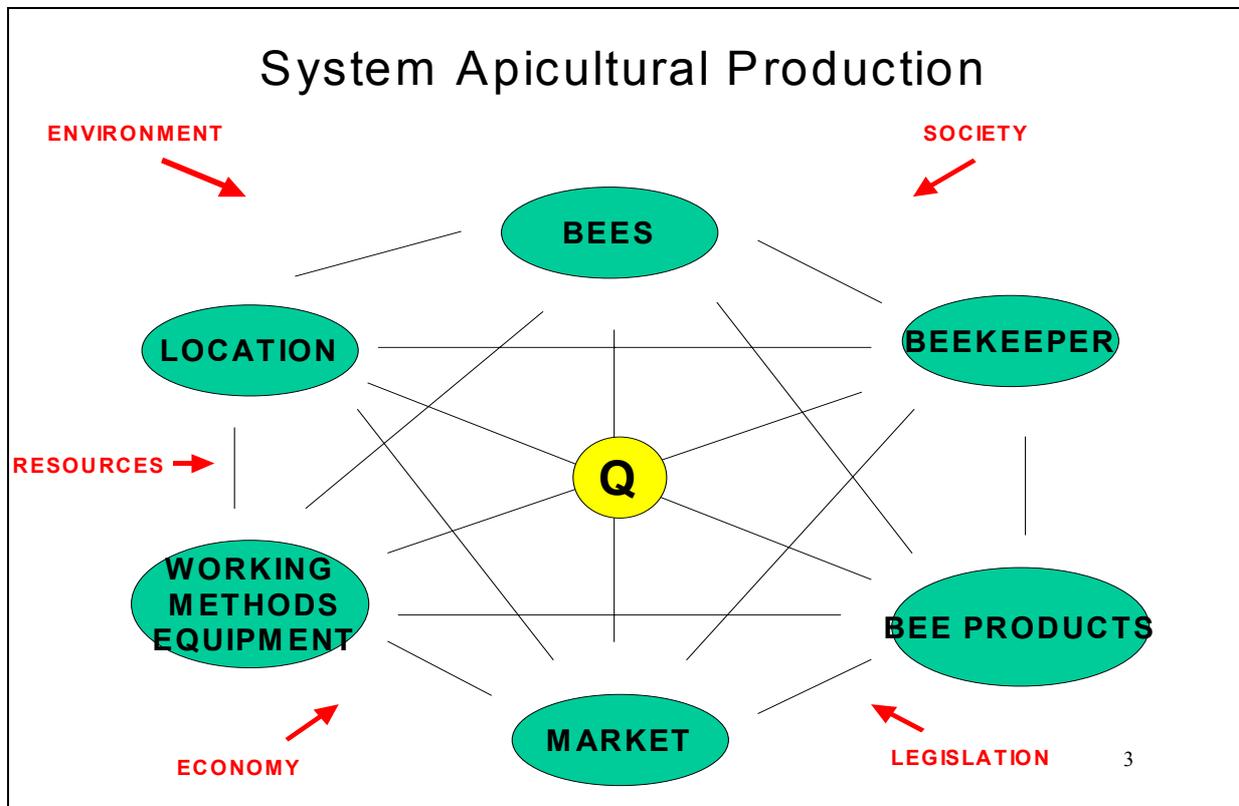
## **PRINCIPLES IN ORGANIC PRODUCTION**

- **HOLISTIC APPROACH**
- **RESPECT FOR THE CREATION**
- **SUSTAINABILITY**
- **LONG-TERM THINKING**
- **PREFERENCE TO INTERNAL CYCLES**
- **DIVERSIFICATION**
- **USE OF LOCAL RESOURCES**
- **LOW EXTERNAL INPUTS**
- **NO GMOS**
- **AVOIDANCE OF CONTAMINATION**
- **CONSIDERING ANIMAL WELFARE**
- **SAVING AND CARING TREATMENT AND PROCESSING**
- **TRACEABILITY OF PRODUCT CHAIN**
- **INDEPENDANT CERTIFICATION**

To implement these basic requirements as a framework and to avoid deception of the consumer by swindlers a legal base was necessary

This diagram is to illustrate the manifold relations of apicultural production and shows only some parameters which contribute to quality

Projection 2



Remember that all elements in this production system are interrelated, redundant and interdependent. Results come always from an interplay of circumstances too complex to be understood at any time.

**2. INTRODUCING ORGANIC LEGISLATION**

It took about two decades that a legislation on “organic” was introduced for plant production in the EU. Guidelines give clear measures and instructions concerning the environment, soil, seeds, working methods, manure type and origin, pest and disease control, harvest, processing, packaging, documentation of operations and quantities of yields and purchases, identification of lots, separation from non organic products, sanctions in case of deviations or fraud, the conversion time, regulations for imports from countries without “organic” legislation etc.

The control system is well defined and established. State accredited private certification bodies with expert personal are annually obliged to testify the conformity of the production with the guidelines. Only in case of a positive audit covering all enterprise’s sections and departments certification is granted and the producer is allowed to use “organic” or “Bio-“labelling for his products.

This leads us to the prominent legal definition of organic:

### Projection 3

#### **LEGAL BACKGROUND OF „ORGANIC“**

**PRODUCTION, PROCESSING AND TRADE ACCORDING TO  
OBLIGATORY STATUTORY GUIDELINES**

**REGULAR CONTROL OF COMPLIANCE WITH DIRECTIONS  
BY ACCREDITED CERTIFICATION INSTITUTIONS**

**PRODUCT DESIGNATION / LABELLING AS „ORGANIC“ ONLY  
WHEN CERTIFICATION HAS BEEN GRANTED**

- It is a product generated and treated under binding conditions.
- Annual control by an expert inspector is obligatory
- The designation “organic“ must not be applied without certification.

The definition beyond legislation is that of sustainability. It means that a production system should be well managed to keep up or enhance the balance between economy, ecology and social aspects.

### 3. REQUIREMENTS AND PREREQUISITES FOR ORGANIC APICULTURE

#### Projection 4

#### **REQUIREMENTS FOR CERTIFICATION**

- **CONTRACT WITH CERTIFICATION AGENCY**
- **COMMITMENT TO CO-OPERATION**
- **CAREFUL OPERATIONS ACCORDING TO GOOD MANUFACTURING AND PROCESSING PRACTICE**
- **NO PARALLEL PRODUCTION**
- **WAX EXCHANGE**
- **UNDERSTANDABLE DOCUMENTATION**
- **WELL ADAPTED BEE SPECIES**
- **SUITABLE LOCATION**
- **ORGANIC FEEDING**
- **PROPHYLACTIC HEALTH CARE; NO SYNTHETIC MEDICAL TREATMENT**
- **HIVES AND PROCESSING EQUIPMENT FROM FLAWLESS (NATURAL) MATERIAL**
- **SOPHISTICATED HUSBANDRY AND OPERATIONAL HANDLING**

The applying enterprise has to sign an agreement with an accredited certification body and will submit a comprehensive overview and profile about its assets, personal, buildings, equipment, product program, processing techniques, working methods, quality management plan, conversion plan, trade relations etc.

The enterprise commits itself to reveal facts on demand, allows inspection of all facilities and compounds, and will cooperate to realize the certification wherever needed.

Once a year the certification agency will send - on appointment - an independent expert to verify organic practice by spotchecking real conditions and documentation. According to his fact finding he will suggest amendments, demand correction of deviations, takes samples and will give recommendations respective to the certification, which is then done - or not - by the certification agency.

In case of suspected deliberate nonconform action unannounced control can be enforced.

Cooperatives or corporate enterprises can apply for group certification to reduce costs.

## **GENERAL STANDARDS**

- Apiculture is officially acknowledged to be of general significant impact (pollination, bee products, human health, biodiversity, employment)
- Organic quality is based on careful production, treatment, processing, storage and positive environmental conditions
- All colonies of an apiary must be organic to designate a product as organic
- Conversion time is at least 1 year
- Conventional wax has to be removed completely
- Documentation of all operations and notices is obligatory ( migration, propagation, harvest, feeding, treatment, etc.)
- In case of parallel production strict separation measures have to be applied

## **ORIGIN OF BEES**

- Regional species and local subspecies have preference
- Buying colonies is allowed from organic breeders only, except in case of building up stocks or recovery after heavy losses (Conversion time 1 year)
- Annual buying of 10% of swarms and queens (no conversion time) is possible

## **APIARY LOCATION**

- Sufficient distance from non-agricultural pollution sources (industry centres, waste grounds/incinerators, heavy traffic junctions etc.)
- Sufficient natural provision with nectar and pollen
- Placement during collection period:  
Preferably in organic agriculture, fallow land, forests, extensively cultivated land, land under environment protection program
- Crops from conventional cultivation with considerable input of agrochemicals may be used but cannot be purchased as organic

## **FEEDING**

- Combs containing brood should not be harvested
- When harvesting leave sufficient honey supplies
- Artificial feeding only in case of emergency
- Feeding with organic honey or organic sugar
- Feeding only after final harvest up to two weeks before new nectar flow

## **ANIMAL HEALTH / IDENTIFICATION / DOCUMENTATION**

- Use of robust species and strains
- Regular queen renewal and colony rejuvenation

- Application of synthetic medicaments is prohibited  
Exceptions are possible on application, treated colonies must undergo wax renewal and conversion time
- Varroa-treatment is allowed with lactic, formic and oxalic acid, menthol, thymol, eucalyptol, camphor, homoeopathy, and biotechnical methods as artificial swarm or ban comb.
- Prophylactic synthetic treatment is prohibited (e.g. antibiotics against foulbrood)
- All applications must be documented properly.

## **HUSBANDRY PRACTICE**

- Cutting the queen's wing is prohibited
- Cutting off drone cells is allowed to reduce varroa during springtime only
- No synthetic repellents
- Foundation sheet from organic wax only
- Hives from natural material only. Small components from plastics are allowed
- Painting or coating only with wax, propolis or plant oils is allowed
- For disinfection use only mechanical measures, heat or caustic soda

## **4. PRESENTATION AND COMMERCIALISATION**

Once an apicultural enterprise is certified and registered it can - after the conversion period - indicate the organic origin on all advertisements, public relation activities, labels and business papers.

As bee products are in high demand right now and did reach a high price level within a year the additional profit for organic quality is not extraordinary. This might change within short time, when yields are high or restrictions on international trade will be released and supply and demand will be more settled.

As the growth of the organic food industry continues there is a pretty reliable market for organic honey, as all components in organic food must be of organic origin.

The marketplaces for bulk organic honey are trade fairs, stock markets, internet platforms and direct quotation offers to processors and wholesalers.

Before the short supply came up in the world market there was an average plus of 15% compared with the conventional price level.

## **5. ECONOMICS**

Every enterprise can make a rough estimate at the additional turnover from organic quality and subtract the costs for certification and additional labour and marketing to get an idea about the extra net profit.

It is recommended to contact certification agencies and specialized consultancies for cost profiles, risk and benefit assessment, conversion advisory service and market access support.

To be honest: producing organic means

- being patient in learning and open to unconventional experiments
- giving up a know-it-all attitude
- having the will and abilities to increase one's labour input
- feeling and acting responsible not only for the customer and one's own economics
- but above all asking for the bee's needs first

Worldwide thousands of beekeepers having just 20 or some thousands of colonies are practising organic production with success. Their reward is far beyond financial incentives. Generating high quality at all levels gives a good feeling by itself and attracts acknowledgement and lasting customer relations.

Personally I am very convinced that only the organic approach will provide continuing vitality and health for one of the most wonderful beings in nature: the bees.