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ECOLOGICAL AGRICULTURE - NEW PERSPECTIVE FOR ROMANIA

AGRICULTURA ECOLOGICĂ - NOI PERSPECTIVE IN ROMANIA

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Ecological agriculture is a set of concepts, laws, principles, methods, proceeding and operations of soil tillage, raising domestic animals and of processing and commercialising agriculture and feed products in agreement with laws and qualities of natural systems, but excluding the used of the synthetic chemical products.
The principle for setting up ecological agriculture is to match ecological technology measures (the combination of ecological and engineering measures) to local conditions. It involves using systematic management methods, grass and tree planting technology, improvement of medium and low farmland and overall use of rural energy resources in order to tackle and improve the ecological environment.
Key words: farming, organic, environment

Introduction

Ecological agriculture is a reaction and an alternative to some of the strategies which have been used by government and donors during the last 50 years, and which have had a damaging effect on rural society and agricultural ecosystems. These damaging strategies include farming technologies, which degrade the natural resource base and require high levels of external inputs (including toxic chemicals), and agricultural research and extension services which are based on the notion that technology should be developed by specialists and transferred to recipient farmers through messages and demonstrations

Among the reforms in the CAP that began in the late 1980s came recognition of the key role that organic farming could play in meeting revised objectives, such as reducing surpluses, promoting quality goods and integrating environmental conservation practices into agriculture. For organic farming to enjoy the confidence of consumers, however, it was evident that stringent regulation covering production and quality would be necessary, as well as measures to prevent fraudulent claims to organic status. Today's consumers are increasingly calling for access to information on how their food is being produced - 'from farm

to fork' - and are looking for reassurance that due care with regard to safety and quality has been exercised at each step in the process.

Materials and Methods

Organic farming systems aim is to re-create as much as possible natural systems. Natural systems support several competing species, so that no single species has a consistent advantage. This is contrary to the main objective of modern conventional agricultural systems where the enterprise, to be viable, must maintain a permanent advantage. Requirement to restrict the use of excess of chemicals in the agricultural practice has imposed the promotion of some strategies which through accepted principles to established alternatives leading to ecological agriculture. Any farm, either crop or livestock to be certified and named ecological must pass a transition period, longer or shorter, of conversion. Ideas on ecological agriculture differ and various concepts exist (e.g., ecological or organic agriculture, biodynamic agriculture). Its simplest definition is understood as an agricultural system that is based on ecological principles and applying ecological practices to maintain soil fertility, to manage crop and animal health, and to keep soil and water in a good condition.

Consumers and producers of organic products understand ‘organic agriculture’ to be the production of food and fiber without the use of synthetic chemicals.

However, there is more to organic farming than just stopping using artificial inputs.

Organic farming is defined by the directive 2092 of EU. Organic farming aims to minimize inputs to create an agricultural system that is as near as possible to a self-perpetuating or closed system of production.

However, some nutrients are removed when the crop is harvested, so some inputs in the form of composts and green manure crops are added to replace these nutrients. Other natural substances may also be added to stimulate biological activity in the soil.

Organic farmers rely on natural methods of pest and disease control and crop nutrition. A high level of understanding is needed of the life cycles and interactions of crops, livestock, weeds, pests and diseases. Mechanical means are used when possible to control weeds or other pests and enhance soil fertility.

Problems that may arise need to be pre-empted (rather than reacted to).

This requires a high level of management, achieved through a variety of techniques:

- Creating environments that encourage beneficial species to keep pest populations in check (i.e. keep natural fences or other natural vegetation to preserve beneficial pests);
- Selecting crop varieties that discourage or are resistant to pests and diseases;

- Using management tools such as crop rotations and companion planting to inhibit or repel pests and diseases;
- Using when possible mechanical means to control pests;
- Use cultivation techniques like long term rotations to reduce pest infestations.

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The ecological products have in origin raw materials crops who have been obtained as part of ecological agriculture system, that hasn't used fertilizer, synthetic pesticides, OMG (genetic modify organisms) and which are not processing with synthetic additives.

At the present moment in Romania existed 4 million of farm holdings. Could they passed in an ecological agriculture and ecological animal husbandry through a transformation of one part from their farms and individual householders of under being which yield, almost exclusive, just for themselves.

Some part of traditional agriculture could become ecological if it accomplishes the established standards through laws.

Any farm, either crop or livestock to succeed to be named ecologic must cross a period, longer or shorter, of conversion.

A livestock farm to become an ecological farm to undertake certification has to use totally organic products – the fodder, the animals cover, spaces and production equipments but also the obtained products from animals.

From point of view the equilibrate integration of animal section we are interested to know the guide size of this section – useful area / animal in cover (useful load / hectare), nutrient with fodder and preparing the fodder's mixture but also the allowed sanitary – veterinary rules.

Once with the presence of the polluted factors, in certain geographical area, the process of destruction of the whole vegetation also begins, with serious effects on the nature and human activity. In most of the polluted species, the pollution damages are causing their regress and the unsettlement of natural interspecies relationship. The existence or absence of pollutants is related to the technology applied in different industrial branches, which proved to be inadequate in keeping the surrounding environment safe. Keeping the polluted vegetation at the best life parameters require taking urgent actions in order to prevent or to stop its degradation processes.

Results and Discussions

In Romania, the present areas grown to fruit trees (242,000 ha) could produce the necessary quantities of fruit for a rational human consumption/capita

and a profitable export, provided adequate technologies were applied to the commercial orchards.

Fruit growing in Romania, has an old and rich tradition, but the most significant changes in this field, occurred during the XX-th century, when the areas grown to fruit trees, the varietal assortment as well as the total fruit yield were dramatically modified.

The acreage grown with fruit trees was 340,100 ha in 1927, 184,200 ha in 1950, 428,400 ha in 1970 and 239,900 ha in 1999. Total fruit yield varied during this period of time between

401,100 tons in 1950 and 2,183,000 tons in 1993. In spite of the fact that in 1993 was produced the highest total fruit yield, the average fruit consumption/capita was only of 35.7 kg which is significantly lower than that considered optimal for adult people in temperate zones (62 kg/capita). The main reason of this situation is the poor varietal structure of fruits in which plum trees represented more than 40% of all the fruit trees grown(Iosif D., 2005).

Another reason would be the low yields/ha registered in all species and cultivars of fruit trees grown in Romania in the last 30-40 years.

The principle for setting up ecological agriculture is to match ecological technology measures (the combination of ecological and engineering measures) to local conditions. It involves using systematic management methods, grass and tree planting technology, improvement of medium and low farmland and overall use of rural energy resources in order to tackle and improve the ecological environment.

Its simplest definition is understood as an agricultural system that is based on ecological principles and applying ecological practices to maintain soil fertility, to manage crop and animal health, and to keep soil and water in a good condition. Others may give the simple explanation of it being agriculture without the use of chemical inputs (e.g., synthetic fertilizers, pesticides and herbicides, or hormones). Yet others see it as much more than that and, for instance, understand it as a vision on healthy products and as a way of life.

Reducing waste and pollution – Biodegradable solid waste from slaughterhouses and food-processing plants, manure from animal feedlots, wood, can be mixed with soil and decomposed by aerobic bacteria to produce compost, dark brown humus that is rich in organic matter and soil nutrients. Compost can be produced from biodegradable solid waste in large plants.

Keeping the polluted vegetation at the best life parameters require taking urgent actions in order to prevent or to stop its degradation processes.

During 1995-2000 the level of air pollution by suspended and depositing particulates has slightly increased. In general, a direct proportionality relationship can be established between the levels of air pollution by suspended ad depositing particulates, respectively.

Because of the high dependency between the concentration of the ozone and the atmospheric transport at a high scale, high concentration of the ozone may occur episodically, which determine positive deviation.

Increased sustainability and competitiveness, while safeguarding consumer health, decreasing environmental impacts and taking account of climate change, in agriculture, horticulture, forestry, fisheries and aquaculture through the development of new technologies, equipment, monitoring systems, novel plants and production systems, crop management through selected plant breeding, plant health and optimised production systems, the improvement of the scientific and technical basis of fisheries management, and a better understanding of the interaction between different systems (agriculture and forestry; fisheries and aquaculture) across a whole ecosystem approach. Research into maintenance of autochthonous ecosystems, development of biocontrol agents, and microbiological dimension of biodiversity and metagenomics will be undertaken.

Conclusions

Organic farming and integrated farming represent real opportunities on several levels, contributing to vibrant rural economies through sustainable development. Indeed, new employment opportunities in farming, processing and related services are already evident in the growth of the organic sector. As well as the environmental advantages, these farming systems can bring significant benefits both to the economy and the social cohesion of rural areas.
Organic farming and integrated farming also represent real opportunities on several levels, contributing to vibrant rural economies through sustainable development. Indeed, new employment opportunities in farming, processing and related services are already evident in the growth of the organic sector. As well as the environmental advantages, these farming systems can bring significant benefits both to the economy and the social cohesion of rural areas. The availability of financial support and other incentives for farmers to convert to organic production is designed to help the sector grow still further and to support associated businesses throughout the food chain.

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