Potentials of Organic Farming in the Region of Marchfeld (Austria)

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Introduction
Marchfeld is one of the most important crop production regions in Austria. High input agriculture causes environmental problems, especially groundwater pollution by nitrate and pesticides, decline of soil fertility and ecosystem diversity. While Austria has about 8.3 % certified organic farms, Marchfeld has only 1.5 %. The presented study was carried out in order to investigate the potentials of organic farming for solving environmental problems. The main interest of this work is the present economic and social situation of organic agriculture, its environmental effects and the identification of factors that support or hamper the further increase of organic farming in this region.

Material and methods
Within the ecological assessment three conventional, one integrated and two organic farms were analysed. The official environmental indicator system „Ecopoints“ was employed to evaluate environmental effects. For economic evaluation marginal farm income for certain farm-models was calculated. The models representing different types of farming systems in the Marchfeld region were derived from statistical data, expert interviews as well as a literature review. The sociological part is a qualitative case study. Nine semi-structured interviews with key representants of the conventional, integrated and organic agricultural sector were carried out. Main topics of these interviews were farmers’ attitudes towards environment and organic agriculture, factors influencing the present economic and social situation in (organic) agriculture as well as environmental effects and future development of organic farming.

Results and discussion
The ecological assessment shows that organic farming has less negative impacts on the environment than conventional and integrated farming. The assessment consists of two aspects: the effects of the production method and the number of landscape elements, which are recognized as a contribution to biodiversity. The production method organic agriculture was valued as less polluting and the number of landscape elements were about the same as in conventional and integrated farming. The results of the marginal income calculation point out that the higher price level of organic products makes organic farming a lucrative market niche at the moment. These results correspond with the estimations of all interviewees. In contrast to the economic results the sociological case study does not confirm the results of the ecological assessment. Consciousness of environmental problems caused by agriculture is less profound in conventional than in organic and integrated farming. The social acceptance of organic farming depends on four aspects: expected economic success, difficulties with the production method, estimated individual competence of the organic farmer and environmental consequences.

Conclusions
In the conventional and integrated agricultural sector organic farming is accepted as a survival strategy and as a new market niche, but not as a strategy to solve environmental problems. The most important factor that hampers further adoption of organic farming seems to be a lack of professional communication between farmers of the different farming systems. There is also little interest, especially from conventional farmers, to spend time learning new cultivation techniques. In addition to that, the production risks in organic farming systems are expected to be very high.

1 „Ökopunkteprogramm Niederösterreich“ is an official agri-environmental program, developed by the local government Niederösterreich in order to distribute subsidies.
Interestingly, both representatives of organic and conventional farming systems do not support a further increase of organic farming in Marchfeld. The reason is that organic farmers are concerned about more competition and conventional farmers fear reduction of market shares. This is based on the predominate opinion that organic products are limited to a market niche. In Marchfeld it will depend on the behaviour of the consumers whether organic farming will increase in the future or not.