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BARRIERS TO ORGANIC MILK PRODUCTION

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Abstract

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This paper describes barriers to production of the organic milk. There was conducted a survey among conventional producers of cow's milk. Based on the identified barriers to organic milk production and farmers' opinions on them there were identified the most important barriers. The most important barrier to the production of organic milk in Vysočina region is considered to be the lack of price premiums for organic milk produced. The price premium is currently around 0.40 CZK per litre of organic milk. Farmers require a minimum price premium 1 CZK per litre, respectively 30 % increase of the price of milk. The higher price premium may serve as a motivation, which could eliminate the second major barrier - satisfaction with the current production. Problematic contact with suppliers has been identified as the third most important barrier by surveyed firms. Buyers do not respect the agreed purchase price (premium price). Partial barrier to organic milk production, according to surveyed farmers is the lack of the necessary amount of concentrated feed in the quality of organic milk.

organic milk, barriers to production, organic farming, region Vysočina

Organic farming must comply with basic legal documents (e.g. Council Regulation 834/2007, Commission Regulation 889/2008 and Act No. 242/2000 On organic farming) and is defined as a special kind of farming which respects the environment and its individual components by setting restrictions or prohibitions on the use of substances and procedures that burden, pollute or contaminate the environment or increase the risk of contamination of the food chain. Organic farming which increasingly cares for the external manifestations of life and behaviour and welfare of livestock in accordance with special legal regulation.

In 2009, there were 2 689 organic farms in Czech Republic with the total area of 398 407 ha, i.e. 9.38 % of the total agricultural land. The region Vysočina has 224 organic farms with a total area of almost 14 000 hectares (Darmovzalová, 2010).

The structure of organic farming land is similar in most regions, dominated by grassland (mostly over 80 %), arable land accounts for about 5 to 10 %. Vysočina region, though, has a much higher proportion of arable land (Ministry of Agriculture, 2009).

In 2009, organic farms have bred around 136 thousand animals at 826 organic farms. Dairy cows have been kept in 48 farms in the number of 2 614 animals. Organic milk production in 2009 reached 12 768 130 liters (Darmovzalová, 2010). The Vysočina region has had only 14 organic farms, which have been engaged in breeding cattle for milk production. These farms usually produce only milk (Ministry of Agriculture, 2010).

In the Czech Republic there is a lack of raw organic milk. For this reason, organic milk must be imported from abroad - mostly from Slovakia (22 000 liters per day in 2009), while dairies process around 55 000 liters of organic milk per day (Rozsypal, 2010).

Aim of this paper is to present results of research among producers of cow's milk and to identify the main barriers that may discourage dairy farmers from production of organic milk. Research focuses on selected conventional cow's milk producers in the Vysočina region, the region with the highest milk production in the country.

MATERIALS AND METHODS

Data collection was conducted through interviews with predefined themes and spontaneous generation of questions during the interview. 10 respondents were selected from different sizes of farms in the Vysočina region. Descriptive method was used to compare the results. Brief description of farms surveyed is presented in Table I. Tables are used to organize a work.

RESULTS AND DISCUSSION

The issue of possible barriers to transition of a conventional to the organic farming address many authors such as Moudrý (1997), Šarapatka (2005, 2006), Václavík (2009). These barriers were divided to the opinion-barriers, technical-technological and economic barriers.

Opinion-barriers

These barriers represent the attitude of the farmer to the issues, which prevent an expansion of organic milk production. The first potential barrier can be seen as *lack of interest in organic farming.* Transition to organic farming requires a change in the value system. Organic farming necessarily includes the elements of conviction to keep farmers farming on the environment-conscious basis and self-imposed compliance with the restrictions and prohibitions related to environmental impacts of conventional farming, including improved care for the welfare of animals. The problem can occur in a negative attitude of farmers to environmental issues. An important barrier is the *farmer's satisfaction with the current production.* Switching to organic milk production entails a change in processes, customers, suppliers, but also requires good information on the overall issue. From the survey done by the authors it can be seen that nearly half of the companies are not interested in these issues, but this is influenced by satisfaction with the current production. Companies that are satisfied only partly, declare an interest in organic farming.

Šarapatka (2005) considers the main barrier to be the lack of knowledge needed for a successful conversion – *lack of information sources.* Currently, there are several projects to improve education in organic production (e.g. a project of the Association of Ecological Farmers PRO-BIO and Association of Advisors in Organic Agriculture (EPOS) focused on organic milk). These activities help to eliminate the lack of information resources. The survey confirms reached improvements in awareness of farmers. Lack of information sources for farmers does not represent a barrier to change the way of operation.

Another barrier can be described as a *fear of something new* (fear of risk, need of new contacts for suppliers, customers, etc.). Transition to organic farming entails some uncertainty, which may be so significant that it drowns all originally intended benefits of any changes. In Table II can be seen that this barrier is valid for farmers, who are satisfied with the current production, and therefore they are not interested in organic farming.

The last opinion-barrier can be defined as the *complicated administration* when applying for a conversion. It is necessary to demonstrate the expected future economic development within the next 3 years with precise information about the breed, feed, etc. From 2012 the administration has been simplified in terms of the registration of new businesses in organic farming (Eagri, 2012). Also, farmers do not consider this barrier to be too significant.

I: *General characteristics of conventional firms*

	1	2	3	4	5	6	7	8	9	10
legal form of business	farmer	farmer	farmer	farmer	farmer	farmer	farmer	coopera-tive	joint stock company	joint stock company
number of dairy cows	10	20	22	27	30	35	90	250	480	900
area [ha]	21	72	25	85	88	66	150	600	1 650	2 000
average annual yield [litres per cow]	6 500	6 500	7 000	7 500	8 500	5 000	8 500	7 300	10 000	8 000
breed	Holstein and Brown Swiss cattle	Czech Pied cattle	Czech Pied cattle	Holstein and Czech Pied cattle	Holstein cattle	Czech Pied cattle	Holstein cattle	Czech Pied cattle	Holstein cattle	Czech Pied cattle
turnover [CZK mil.]	1.5	2	1.4	2.7	2.5	1.5	10	30–35	80–100	160
milk sales [% of total sales]	35	50	90	74	40	78	50	70	45	45

Source: own work

II: *Opinion barriers*

Opinion barriers	1	2	3	4	5	6	7	8	9	10
lack of interest in organic farming	partly	not	not	yes	yes	yes	partly	not	partly	yes
satisfaction with the current production	partly	partly	partly	yes	yes	yes	partly	partly	yes	yes
fear of something new	not	partly	not	not	yes	not	yes	not	not	not
complicated conversion	partly	partly	partly	not	not	not	yes	not	not	not
lack of information resources	partly	not	not	not	not	not	not	not	not	not

Source: own work

Technical-technological barriers

The second group of barriers includes technical and technological barriers that are caused by specific local conditions on the farm. The first barrier may be *unsuitable breed* for organic farming – those breeds that are commonly bred in conventional conditions do not give appropriate results in organic farming. Authors, such as Moudrý (2007), Šarapatka (2005), Smetana (2009), state that the most suitable breed for organic farming in our natural conditions is the Czech pied cattle. Many farmers breed the Holstein cattle, which is focused on high milk yields, but these animals are more prone to illnesses.

The interviewed farmers, who use this breed, do not consider this to be a problem (see Table III). They are aware of drawbacks, mainly consisting in intensive care and sufficient amount of quality food and believe that they are able to eliminate this issue. Another technical barrier is *a complicated separation of organic soil from the conventional units.* Two other barriers may arise from the simultaneous conventional and organic production. It is the *inability to produce the same raw material conventionally and organically* as well as the *need* to *fully and clearly separate conventional and organic production,* which takes place on the farm. If the farm cannot separate the conventional and organic areas due to the farm arrangement, or farmers have long-term liabilities in the conventional cattle there occurs a burden to increase the production of organic milk. Surveyed farmers do not consider this to be a problem. In the case of conversion to organic farming they would transform the whole production into organic.

Big changes occur in cattle stabling. The barrier may be *the lack of space in the barns,* which is required to be larger in organic farming (the difference is 1 m^2 per animal) or the farm does not have a free run (4.5 m^2 per animal) which is not required in conventional breeding. Other barriers in this area are mentioned by the authors such as Moudrý (1997, 2007), Vraný (2004), MZe (2004), Šarapatka (2005), Smetana (2009), and they include *the lack of grazing space, free stabling.* Surveyed farmers do not considered these barriers to be a problem, and they already meet the demands of increased space and free stabling. Partial problems are in the pasture area, but most businesses are able to ensure adequate space.

Another problem area is the more strict requirements on animal nutrition. *Increased care for the calves* in particular related to requirements on feeding, or even *more difficult* overall *nutrition of cattle,* which is given mainly by the limited purchase of protein and energy feed supplements. Major barrier

III: *Technical-technological barriers of conventional farms*

Technical-technological barriers	1	2	3	4	5	6	7	8	9	10
unsuitable breed for organic farming	partly	not	not	not	partly	not	not	not	partly	not
separation of organic system	partly	partly	partly	not	not	not	partly	partly	partly	partly
inability to produce the same raw materials	not	partly	partly	not	not	not	partly	partly	partly	partly
complete separation of organic farming	partly	partly	partly	partly	not	not	partly	partly	partly	not
lack of space in the barn	partly	not	partly	partly	partly	not	not	partly	partly	partly
lack of pasture space	partly	partly	not	not	not	not	partly	partly	partly	partly
impossibility of free stabling	not	not	partly	not	not	not	not	not	not	not
unsatisfactory barn	partly	partly	not	partly	not	not	not	not	not	partly
increased concern for calves	not	not	not	not	not	not	partly	not	not	partly
more difficult nutrition	not	partly	partly	not	not	not	not	not	not	partly
need for organic feed	not	partly	partly	partly	partly	not	partly	yes	not	partly
limited reproduction	not	not	not	not	not	not	not	not	not	not
inadequate milking system	not	not	not	not	not	not	not	not	not	not

Source: own work

may be the *needed of feed from organic farming.* The conditions are set so that the cows can consume up to 10 % of conventional feed per year. At the same time it is required to minimize the inputs taken off-farm. This barrier is mentioned by the surveyed farmers as one of the most important ones, because organic farming increases the need for roughage. Another possible problem represents the more difficult growing of cereals in organic certification, which are used in dairy farms as a production component of the diet. Also, bigger purchases of grain feeds in the organic quality from other farmers are very difficult due to lack of feed of this type.

Technical and technological hurdles also include the *limited reproduction* in organic farming, which, for example, prohibits the synchronized oestrus, and the *inadequate conditions of milking system.* These barriers are not important for surveyed farmers, who already have modern milking systems and use all equipment in accordance with the principles of organic farming.

Economic and market environment barriers

The last group of barriers are, according to authors such as Moudrý (1997, 2007), Šarapatka (2005), Štůsek (2008), Poláčková (2009), those related to the economic and market environment. It can be a *problem of transition* from a financial point of view, because in this period (6 months) there is a reduction of revenues and farms cannot get a price premium, which is common in organic products, yet. As the second major barrier there is the *lack of price premiums* for organic milk produced, which should satisfy the increasing demands for organic milk production, but currently the sales price of organic milk is only 4 % higher than the price of conventional milk. Simultaneously there grow the budgeted cost per litre of milk. Farmers want a price premium of at least 20–30 % compared to the current milk price (CZK 8.30 – spring 2012). Company No. 8 would even require a double price of organic milk. This factor is very important and can affect farmers in the choice between conventional and organic farming. A similar function as the low price premium in the decision problem can have *low subsidies*, if a farmer takes into account all the duties and restrictions to be observed in organic agriculture.

An important group of barriers surveyed farmers identified represent the *difficult contact with customers,* or – in the case of self-organized sales and processing – also *setting up their own* farm *shop and processing areas.* Dairies buy organic milk at a low price because a large part of organic milk is finally sold as conventional. In the Czech Republic, according to the statement the PRO-BIO Association of Organic Farmers (Nesrstová, 2011) only 5 dairies process organic milk and the situation will further worsen. Transport of organic milk is more complex due to the distance of dairy from the organic milk producer. Most respondents were not considering the possibility of establishing their own stores. Establishment of own shops is difficult because of hygienic requirements and uncertainty of sales.

In the case of own processing and sales there are incurred additional costs associated with the implementation of this project. Obstructions can occur in the opposite direction of the market communications in *contact with suppliers,* mainly in the availability of organic feed and other needs of organic farming. Last but not least, an important barrier may be the *lack of funds* to implement the project, and unwillingness to involve a external funding. These barriers, though, are perceived by farmers as irrelevant (see Table IV).

IV: *Economic and market barriers*

Economic and market environment	1	2	3	4	5	6	7	8	9	10
problem of the transitional period	partly	not	partly	not	partly	not	not	not	not	yes
lack of price premiums	yes	yes	partly	not	partly	not	partly	yes	partly	yes
low subsidies	partly	not	partly	not	partly	not	not	not	partly	not
difficult contact with customers	yes	not	yes	partly	partly	not	partly	yes	partly	not
need of own stores	partly	partly	not	not	not	not	partly	partly	not	not
difficult contact with suppliers	not	not	partly	not	not	not	not	not	not	not
insufficient funds	partly	not	partly	not	not	not	partly	not	not	partly

Source: own work

SUMMARY

In the Czech Republic there is annually produced about 13 million litres of organic cow milk, but the need is bigger. Forty percent of organic milk has to be imported from abroad, mainly from the Slovak Republic.

Aim of this paper is to present the results of a survey of producers of cow milk and to identify the main barriers that may prevent dairy farmers from organic milk production. Identified barriers were divided into three groups – opinion, technical-technological, and economic barriers. The most important barrier in the production of organic milk in Vysočina region among the farmers interviewed is considered to be the lack of price premium. The price premium is the difference between the sales

price of organic milk and conventional milk. The price premium is currently around CZK 0.40 per litre of organic milk. Farmers require a minimum price premium per litre to be CZK 1, respectively 30 % of the milk price.

The higher price premium may serve as a motivation, which could eliminate the second major barrier – satisfaction with the current production. Most of the surveyed conventional farms are more or less satisfied with the results of current production, but that does not mean that they do not seek other economically advantageous alternatives. Problematic contact with suppliers has been identified as the third most important barrier by surveyed farms. Buyers do not respect the agreed purchase price (price premiums).

In farmers' opinions there dominates neutral view of organic farming, but it is accompanied with distrust in the functioning of the current system of organic farming.

Farmers reported concerns in providing the required quantity of concentrated feed in the organic quality (cereals, corn, soy-beans, rape). Possible barrier also represents the breed of cattle, when half of the respondents breed Holstein cattle, which is unsuitable for organic farming due to its narrow focus.

Barriers such as fear of something new, complicated conversion, lack of resources, the problem of the transition period are general barriers, and are rather associated with specific conditions of a particular farm. Other barriers for dairy farmers in the Vysočina region are seen to be less significant.

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