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**DETERMINANTS OF THE DEVELOPMENT OF FARMS
CONDUCTING SHEEP PRODUCTION***

*DETERMINANTY ROZWOJU GOSPODARSTW ZAJMUJĄCYCH SIĘ
PRODUKCJĄ OWCZARSKĄ*

Key words: sheep, development, farms, profitability

Słowa kluczowe: owce, rozwój, gospodarstwa, opłacalność

Abstract. The paper discusses factors influencing the development of agriculture sector and of enterprises, including farms. External and internal conditions are presented. To a large extent, the factor influencing the development of farms is their economic condition. Based on guided interviews conducted with farmers in years 2003-2004 and 2009, a set of factors influencing profitability of sheep production was determined. The factors were rated by farmers according to their significance. In years 2003-2004, production profitability was perceived by farmers to be dependent on support from the domestic budget. In 2009, after implementation of changes in the principles of subsidising, the price obtained for lambs and the possibility of direct sales became the most important.

Introduction

Proper functioning and development of enterprises depend on a number of factors. Most important ones include the achievement of profit, i.e. the economic factor. In many cases, an optimum result cannot be achieved; therefore, entrepreneurs focus on achieving an average (satisfactory) result. A positive financial result encourages investments. [Milewski... 1999]. One of the numerous definitions of investment describes investment as expenditure incurred on increasing the non-current assets of a company, with a view to generating profits over many years [Rogowski 2004]. In case of farms, excess resources may be allocated to purchases of land (indispensable means of production), increasing production resources (buildings and constructions, machines and equipment, including pulling power resources). Production factor resources influence the production potential of farms and are considered to be endogenous development factors [Ziętara 2008]. As exogenous (external) factors influencing the development of farms, one may enumerate organisation of the procurement and supply markets, applied production technologies, form of product sales and agricultural policy [Stańko 2008]. In addition to the above external and internal factors, endogenous ability to respond to changes in the macro-environment is also important [Zarębski 2009].

As a result of interrelations of the farming sector with national economy, the development of farms is influenced by social and economic condition of the given area. Unfortunately, the rights of free market supporting flow of capital to most effective areas of business caused developmental problems in the sector of agriculture, including farms. Consequently, in addition to production activity, increased attention is paid to multifunctional development of rural areas [Woźniak 2008]. Such development is supported by Community and national institutions. However, the experience of EU countries indicates that development should also be promoted by non-governmental agencies and institutions, as well as by regional and local policies [Wiatrak 2004].

Upon joining the EU structures, Poland became part of the single European market. There appeared an opportunity to reach a greater number of consumers, but also fears connected with increased competition. All entities operating on the market were forced to adopt EU requirements and legal regulations [Górna 2009]. The principles of market economy, implemented in the sector of farms, revealed negative effects of its insufficient preparation to be competitive [Goraj 2005].

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Therefore, the farming sector requires state intervention. In highly developed countries, agricultural producers are subsidised and domestic markets are protected against import. Yet, market support to farmers is becoming abandoned, in favour of direct subventions [Poczta-Wajda 2009]. Most popular in the EU, the concept of sustainable development of agriculture assumes maximisation of net profits from economic development, on condition of simultaneous protection and ensuring restoration of natural utilities in a long-term perspective [Woś 2004]. Additional payments are foreseen for activities connected with the protection of natural environment and broadly defined development of rural areas [Poczta, Baer-Nawrocka 2004].

Entities operating in the conditions of market economy should not expect stabilisation; instead, they should expect changes and constant adaptation to the surrounding environment. Changes are necessary for continued existence and, in particular, for development of enterprises. Success may only be ensured by changes of appropriate kind, time, scope and sequence of implementation [Klepacki 2005b]. Many transformations have taken place in the sector of farming over more than ten years since the introduction of market economy. Prices of the means of agricultural production have increased, accompanied by a much lower increase in the prices of agricultural produce. Therefore, the price differentials have increased and the profitability of agricultural production has deteriorated [Ziętara 2009]. One method of dealing with those difficulties may be aiming at increased production efficiency or at increasing its scale [Parzonko 2006]. Of increased importance is also the acquisition of EU funds in the form of direct production subsidies or other payments under agri-environmental programmes [Spiewak 2007]. On the other hand, such support influences the decisions and expectations of producers and it delays the process of structural transformations in poorly developed regions. For example, in Ireland the support to farms extensively using sheep and cattle resulted – paradoxically – in lack of efforts to strengthen and develop the production [Klepacka-Kołodziejska 2007]. To a large extent, the factor influencing the development of farms is their economic condition.

Research organisation

The article presents the results of research covering farms dealing with the breeding of sheep in Podlaskie voivodeship (region). The research concerns years 2003-2004 and 2009. In years 2003-2004, 65 breeding farms operated in Podlaskie voivodeship. The research covered the whole population. Surveyed entities were divided into groups depending on their FA (farming area). The methodology applied by the Central Statistical Office (GUS) in conducting the Agricultural Censuses was used in the research. The surveyed community did not contain any farms under 5 ha. Particular groups of farms were identified by subsequent letters of the alphabet, starting from those with the smallest area. The symbol A denotes farms in the range 5.01-10 ha (7 farms), B: 10.01-15 ha (19), C: 15.01-30 ha (29), D: 30.01-50 ha (7), and the symbol E denotes farms above 50 ha FA. The division was also connected with the number of animals in the mother flock of sheep. In group A, the flocks had on average 35 mothers each, B: 50 each, C: 80 each, D: 150 each, and the highest average number of mothers was recorded in farms of group E: 300 mothers each. In 2009, research was repeated on a smaller group, i.e. 10 farms, which belonged to the population surveyed in years 2003-2004. That was the first stage of realisation of a research grant, whereas 15 farms are to be surveyed within subsequent stages.

Literature on the subject was also used to explain the trends and dependencies in sheep production. Factors determining the development of sheep production in Poland were determined on this basis. One of the most important factors influencing the operation and development of farms is their economic condition. Opinions of farmers, who specified factors influencing the profitability of sheep production, were used to describe that condition. The survey was conducted in years 2003-2004. A similar survey was conducted in 2009 in order to determine changes of opinions among sheep breeders. All data were collected based on guided interviews conducted with farmers.

Conditions of the development of sheep production in Poland

Dramatic decrease in the headage of sheep in the second half of the 1980s and in the first half of the 1990s was caused by decreased demand for sheep products. In that period the profitability of sheep production decreased, along with global overproduction of wool, which resulted in lower prices of that raw material [Klepacki 2005a]. Wool produced in Poland could not compete with the

material from countries which had much better conditions for its production and which, as a result, was cheaper and of better quality [Niżnikowski 1994]. Inflation, growing costs of the means of production and lack of financial liquidity contributed to the liquidation of many flocks of sheep. The dominant direction became production of sheep for meat, which caused changes in the headage and breed structure of sheep. At the beginning of the 21st century, apart from breeding for meat production purposes, an important direction became the husbandry of preservation breeds [Klepacki, Rokicki 2005]. Upon Poland's joining of the European Union structures, farming conditions changed. After a brief transition period, support to sheep production from the Biological Progress Fund was liquidated. Since then, subsidies were supposed to come from direct subsidies or from agri-environment payments. Presented changes influenced the amounts of revenues and costs generated in sheep production. Therefore, an important issue is determination of factors influencing the profitability of sheep production in Poland at the beginning of the 21st century [Klepacki, Rokicki 2009].

The influence of agricultural policy onto the functioning of farms is significant. Instruments aimed at providing direct support to producers are implemented. At the time of joining the EU structures, farms dealing with the production of sheep in Poland were receiving a subsidy for mother sheep from the national Biological Progress Fund. As a result of pre-accession negotiations, it was agreed that the subsidies would be maintained over the first 3 years of EU membership. Abandonment of national subsidies for sheep producers could result in a dramatic decrease of profitability, or even unprofitability, of production. The Ministry of Agriculture and Rural Development had the possibility to offer special support to certain kinds of plant and animal production activity, which could include the production of sheep [Rokicki 2006]. Thus, the so called payment for lamb weighing was introduced. It is paid for the mother sheep for which at least one lamb is weighed and it concerned breeding flocks. The procedure of obtaining funds on that account was quite complicated. Farmers in possession of grasslands and ruminants could obtain additional revenues under the so called fodder payment within the framework of direct payments [Rokicki 2008]. Sheep producers may obtain payments within the Rural Development Plan (RDP) for years 2007-2013. Payment for the package „Protection of the genetic resources of farming animals” in relation to sheep amounts to PLN 320/mother sheep per year [Dobrzyńska et al. 2004. www.minrol.gov.pl]. In addition to the above payments, producers of sheep could obtain funds for alternative methods of using sheep. Sheep may be used for taking care of landscape park areas and natural reservations, taking care of sand dunes, water structures, as well as pasturing at sports areas (skiing pistes and ski jump facilities). Sheep producers would be obtaining payments in return for such services [Niżnikowski 2005].

Based on a survey conducted in 2008 at sheep breeding farms in Podlaskie voivodeship, the structure of revenues and costs was determined. In preservation flocks, approximately 52% revenues were agri-environment payments, 33% – sales of lambs, whereas the funds obtained for weighing accounted for as little as 8%. Smallest amounts were obtained by farmers for fodder payments (4%), from sales of faulty sheep (2%) and wool (less than 1% of revenues from sheep production). Among direct costs, 41% were costs of bulky fodders, whereas 43% were the costs of concentrate fodders. The remaining 16% were expenditures on services provided by the sheep breeders' associations as well as purchases of veterinary medicines and services. Indirect costs are difficult to determine, but based on the conducted survey it was determined that they constituted from 30 to 40% of total costs [Rokicki 2009].

Factors influencing production profitability

Based on general and production related conditions, factors influencing the profitability and indirectly also the development of sheep production in Poland were specified. Most important of those include [Klepacki 2005a, Rokicki 2004]:

- sheep headage,
- subsidies from the state budget or other forms of support,
- price obtained for lambs,
- number of lambs in the litter,
- number of maintained sheep,
- frequency of litters,
- price of fodder and its costs of manufacturing,
- sheep breed,
- consumers' interest in lamb meat and, thus, possibilities of selling lambs in Poland.

Table 1. Factors influencing the profitability of sheep production in the opinion of farmers in years 2003-2004

Specification	Factors influencing the profitability of sheep production						
	A	B	C	D	E	average	number of indications
State budget subsidy	1.40	1.33	1.26	1.00	1.00	1.27	64
Price for lambs	1.50	1.67	1.74	2.00	2.00	1.72	65
Number of lambs in litter	2.75	3.30	3.52	3.00	3.00	3.34	41
Number of maintained sheep	4.00	3.73	3.95	3.50	4.00	3.85	46
Frequency of litters	0.00	4.00	4.00	4.00	0.00	4.00	4
Prices of fodder	4.00	4.00	3.87	5.00	3.00	4.00	31
Farmer's age	0.00	4.00	4.00	0.00	0.00	4.00	7
Sheep breed	4.33	4.00	4.13	4.50	5.00	4.21	34
Interest in lamb meat	4.00	4.33	4.67	0.00	0.00	4.43	7
Farmer's knowhow	0.00	4.33	4.56	0.00	0.00	4.47	15
Private sales of meat	4.00	5.00	5.00	0.00	0.00	4.88	8
Distance from collection point	5.00	0.00	0.00	0.00	0.00	5.00	1
Training on fattening	5.00	5.00	5.00	0.00	0.00	5.00	3

Source: own study.

The above specification does not exhaust the whole issue, as it does not specify all factors which may influence profitability of sheep production, but only the most important ones. Factors considered by producers to be the most important are presented hereinafter. In years 2003-2004, based on the conducted interviews, information on factors with the greatest influence onto the profitability of sheep production was obtained. Ranks were assigned to particular factors (a farmer needed to select 5 most important factors). For the first rank, the given factor obtained 1 point, whereas for the last fifth rank it obtained 5 points.

According to farmers, state budget subsidies and the price of lambs had the greatest influence onto sheep production profitability (Tab. 1). Further places were occupied by mother sheep's fertility and the number of mothers in the flock. In the opinion of farmers, training on fattening of sheep or distance from the collection point were of little importance. The importance of factors in particular groups of farms was not highly differentiated. Most frequently, farmers referred to the price for lambs (65 times), state budget subsidies, number of mothers in the flock, number of lambs in litters and sheep breed, whereas least frequently they referred to distance from the collection point (1 time), frequency of litters, farmer's age and interest in lamb meat.

The survey was repeated in 2009 on a population of 10 farms, which were covered by the survey conducted 5 years before. As the conditions changed, the set of factors influencing the profitability in the opinion of farmers also changed (Tab. 2). The most important factors became prices for lambs and private sales of meat. The researched farms did not benefit from agri-environment payments, but only from direct payments. The impact of this form of support onto profitability was lower. New factors included health of lambs and prices of veterinary services. Proper care for

Table 2. Factors influencing the profitability of sheep production in the opinion of farmers in 2009

Specification	Factors influencing the profitability of sheep production	
	average	number of indications
Prices for lambs	1.20	10
Private sales of meat	2.25	8
EU subsidies	2.50	8
State budget subsidy	3.00	3
Number of lambs in litter	4.00	4
Health of lambs	4.00	3
Prices of fodder	4.20	5
Interest in lamb meat	4.33	3
Sheep breed	4.50	2
Prices of veterinary services	4.50	2
Farmer's knowhow	5.00	2

Source: own study.

lambs is obvious because of significant revenues from sales of lambs. The factors related to training on fattening, distance from the collection point, frequency of litters and farmer's age were not considered in 2009.

Transformations in the surrounding environment of farms and internal transformations resulted in a change of factors influencing the profitability of production at sheep farms. However, it causes no doubt that the condition and development potential of farms depends on production profitability.

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Streszczenie

W pracy omówiono czynniki wpływające na rozwój rolnictwa oraz przedsiębiorstw, w tym gospodarstw rolnych. Przedstawiono uwarunkowania zewnętrzne i wewnętrzne. Głównym czynnikiem warunkującym rozwój gospodarstw rolnych w dużej mierze jest ich sytuacja ekonomiczna. Na podstawie przeprowadzonego wywiadu kierowanego z rolnikami w lata 2003-2004 i 2009 określono zestaw czynników wpływających na opłacalność produkcji owczarskiej. W latach 2003-2004 rolnicy opłacalność produkcji uzależniali od wsparciu z budżetu krajowego. W 2009 r. po zmianie zasad dotowania najważniejsza stała się cena uzyskiwana za jagnięta i możliwość sprzedaży bezpośredniej.

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