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SIGNIFICANCE OF PRODUCTION DIVERSIFICATION IN ENSURING FINANCIAL SECURITY OF FARMS IN POLAND

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Abstract. The purpose of the present study is to define, based on a theoretical identification, the significance of production diversification in ensuring financial security of agricultural farms and a presentation of the specificity of multi-directional farms in Poland. The entities included in the research were the ones conducting agricultural activity of a mixed type: “mixed cropping and mixed crops-livestock” in 2007–2013. The analysis was carried out based on data obtained from the statistical publications of the Central Statistical Office. The size of agriculturally utilized area and its use, economic size, the type and structure of plantation, as well as the species and number of farm animals were all taken into consideration in the analysis. Based on the theoretical considerations presented, it is evident that production diversification plays an important role in the reduction of the agricultural activity risk, and thus it contributes to maintaining stability and thereby preserving the financial security of farms. The results of empirical research prove that the farms that diversify their production are mainly those of small economic size, producing for their own use. Diversification acts as a safety buffer in the case of these farms. It ensures self-sufficiency in terms of consumption and fodder production as well as small income. In the case of farms with bigger UAA it ensures proper functioning and survival on the market.

Key words: mixed farm, financial stability, financial security, diversification of agricultural production

INTRODUCTION

Agricultural activity is characterized by a high variability and uncertainty. Farmers are not able to control or accurately predict the effects of the actions undertaken by them as part of their agricultural production. This is chiefly the result of the occurrence of extreme weather phenomena and market changes in the agricultural and food sector, the realization of which may lead to a reduction or loss of incomes and/or property and, consequently, a loss of financial stability. The considerations by Gorczyńska (2013) regarding the financial stability of enterprises prove that an entity that possesses financial stability acts without any disruptions and it is capable of withstanding shocks. Therefore, it is stability that is the condition of a correct functioning of an enterprise and a realization of activities that allow one to reach their objective. Thus, it can be stated that a farm which possesses financial stability is one which is capable to realize its functions in a continuous and effective manner, even in the event of unexpected and unfavourable occurrences of a random nature on a large scale, it is able to carry out business transactions, repay credits and loans, and to effectively allocate resources. According to Yilmaz (2007), financial stability is an inherent condition of financial security and vice-versa. Raczkowski (2014) treats financial security as a process of permanent limitation and elimination of risk to secure capital compatibility, which

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will be adapted to the risk profile and the preferences of a given entity. Soliwoda (2014), when making an attempt to assess the impact of the Common Agricultural Policy on the financial security of farms in Poland, defines it as a lack of symptoms that would indicate the state(s) of financial risk. Likewise, Franc-Dąbrowska (2006) claims that financial security means ability to maintain financial liquidity and a high efficiency of farming. Szafraniec-Siluta (2013), raising the issues of the financial security of agricultural enterprises, finds that in many cases maintaining financial security is favourable to the continuity of the economic activity. Duraj (2014) offers a considerably broader notion of financial security, indicating that this is a state which guarantees the certainty of the company's functioning and development and ensures that they will be maintained. This means that on the one hand financial security concerns the conditions of current activities being conducted in a continuous and effective manner and on the other hand, it is oriented towards the development of agricultural activity, the result being an improvement in the market position and an increase of the enterprise's value. Needless to say, all of this is possible owing to the entity's ability to maintain financial liquidity, as well as the creation of long- and short-term financial provisions.

When seeking solutions aimed at increasing financial security of farms, it is worth to consider diversification, which means diversification of the structure of agricultural production and the use of the farm's resources of land, capital and labour to conduct agricultural activities (Majewski and Radzikowska, 2006). Diversification is a strategy aimed at creating possibilities of an effective use of the potential, ensuring stability of incomes and high degree of financial independence, as well as provision of opportunities for permanent and sustainable growth and, above all, survival on the market (Woźniak, 2008). In Poland this is one of the most popular risk management strategies used in agriculture.

The purpose of the present study is to define, on the grounds of a theoretical diagnosis, the significance of production diversification for ensuring the financial security of farms, and to present the specificity of multi-directional farms in Poland.

PRODUCTION DIVERSIFICATION AND FINANCIAL SECURITY OF FARMS IN THE LIGHT OF THE LITERATURE OF THE SUBJECT

Farms function in specific natural and economic conditions, which may have an impact on the size and structure of agricultural production and on the manner in which they are organized. Any change to these conditions leads farmers to take specific adaptation measures, the consequence being tendencies of production multi-directionality defined by Jerzak (2009) as a production diversification.

Agricultural production diversification consists in adding more variety and expanding into different production sectors, as well as an introduction of new products, ones that have not been on offer so far, produced with the use of current or different technologies (Tyran, 2010). In the view of numerous authors, agricultural production diversification is manifested by combining traditional crops with modern crops or energy crops and the ones to produce biomass, mixing crops with animal husbandry or afforestation of agricultural lands (Kurosaki, 1995; Norman, 1974; Węglarz and Bereza, 2012). Pope and Prescott believe that production diversification involves a departure from traditional crops, which are less profitable, and introducing new and more profitable crops, which has an essential impact on the level of farm incomes. Similarly, Parthasarathy et al. (2008) indicate that diversification entails changes to production that consist in a departure from the cultivation of basic cereals and cultivation of high-value food products such as fruit, vegetables, milk and eggs.

The significance of the diversification of production can be analysed on the level of a farm, a region and a country (Jha et al., 2009). On the level of the farm diversification aims at:

- a complete and evenly distributed employment of labour force
- a full use of the natural production potential of lands through proper crop rotation of plants (complementarity of production sectors)
- self-sufficiency in the area of the means of consumption (auto-consumption) and in the area of fodder production
- use of all by-products to increase overall farming effectiveness

- a reduction of risk in production (Adamowski, 1977) by ensuring income security
- mitigation of the impact of changes to economic situation on the financial results of the farm.

On the regional level production diversification can limit negative effects connected with the monoculture of crops, while on the national level it is to increase the degree of national self-sufficiency (Jha et al., 2009).

The chief reasons leading farm owners to conduct multi-directional production have been empirically verified. Most frequently, it is emphasized that production diversification plays an important role in the reduction of risks related to agricultural activity. Jamagani and Bivan (2013), when doing research into those factors influencing production diversification, proved that the most important causes of crop diversification include: the need of an improvement and protection against the unpredictability of weather and/or fear of damage to crops and ensuring supplies of various plants for the family farm. Culas and Mahendrarajah (2005), when analysing the causes of diversification in Norwegian agriculture, indicated that production diversification can be regarded as a spontaneous reaction to avoiding many uncertainties and, in particular, those connected with climatic factors, pests and diseases, policy connected with the prices of agricultural production, turnover and trade. Guvele (2001) found that the multi-directionality of production reduces the volatility of incomes in the farm. Abro (2012) believes that provision of food for households and security of incomes constitute objective grounds for diversification. Moreover, it is recommended as one of essential risk management strategies aimed at stability and increase of farm incomes, better employment potential and maintaining natural resources. According to Grudziński (2008), production diversification is a method to limit risk, particularly production risk. Majewski et al. (2008) make similar observations. In their view, adequate production diversification may be of a substantial significance to limiting risk, mainly production risk. Kahan (2008) is of the opinion that production diversification can be used to limit not only production risk but also risks related to prices and incomes. Similarly, Czyżewski and Śmiglak (2006) found that when production is diverse, farmers distribute natural risk (which is the most essential element of production risk) and economic risk into a larger number of product types. Owing to this, they are able to alleviate the effects of the risk of unfavourable changes to the prices

of agricultural products and to limit the negative consequences of disaster risk connected with random events, diseases of animals or diseases and pests of field crops. In the view of Johnston et al. (1995), the multi-directional production increases economic stability through a reduction of financial risk.

It must be emphasized that production diversification is justifiable only when it is based on an appropriate selection of products, i.e. the so-called production portfolio. At this point it is to develop the portfolio of activities with a low covariance of risk (2000). Sulewski (2012) presented interesting research in this area. The author made an attempt to apply the portfolio theory, the Sharp's model and the valuation model of capital assets (CAMP) to assess the level of risk for the selected agricultural activities, and to define the possibilities of its limitation through diversification. The results of this research indicate that obtaining the positive effects of diversification does not mean an expansion of the structure of crops by the largest possible number of products, but a selection of such elements whose influence on risk reduction will be the largest. The author proved that only an introduction of specified plants, i.e. some species of cereals and plants grown for industrial purposes, into the structure of production will have a positive influence on an increased stability of farming.

SOURCES OF DATA AND RESEARCH METHODOLOGY

Literature studies were carried out, and data from the Central Statistical Office of the Farm Structure Survey in 2007–2013 were used for the realization of the purpose set. The survey included all agricultural holdings of legal persons and organizational units without a legal personality and a sample of private holdings. Farms with the following agricultural type: mixed – “mixed cropping”, as well as “mixed cropping and animals”¹ are analysed, and they are treated as less specialized. In the analysis, the acreage of cultivated land, the economic size, the land acreage and the directions of its use, the

¹ The division of farms used in the analysis results from the accepted systematics used by FADN in accordance with which the agricultural type of a farm is defined on the grounds of the share in standard production in the individual agricultural activities conducted in this farm in the total standard production of the farm.

type and structure of crops, as well as the species and livestock age were taken into consideration. The indicators of structure and dynamics were used in order to obtain a numeric description of the analysed variables. To compare changes in time, the incremental analysis was applied (absolute and relative).

STRUCTURE OF MULTI-DIRECTIONAL FARMS IN POLAND

In the period analysed, mixed farms in Poland constituted on average 33.26% of the total number of farms, with the highest percentage constituted by farms of the type of “mixed crops and livestock” (20.44%) while the lowest percentage was observed in the case of “mixed cropping” farms (5.48%) (Table 1). In the structure of farms, a phenomenon of a considerable reduction of the share of mixed farms and the growth of specialized farms can be observed starting from 2007. It should be underlined that the tendency for a dichotomy in the development of agriculture is characteristic of all the EU member states. On the one hand, we have specialised farms focused on maximisation of food production and on the other hand multifunctional farms. Such farms, apart from primary food production function of agriculture, care for maintaining biodiversity, landscape, water and soil protection, maintaining pasture land and extensive meadows, keeping the level of employment and population on the

depopulation areas, as well as preserving cultural heritage (Czarnecki, 2005).

The production diversification of farms in Poland is characteristic of those entities whose acreage of cultivated land does not exceed 10 ha. These are farms producing only for their own needs with a small number or no market transactions. The diversification enables them to satisfy their consumption and fodder needs, as well as to achieve a small income. These farms also possess limited production resources, what can influence the choice of production type and its specialisation. The least diversified production is observed in the largest farms, with over 100 ha of UAA (Table 2). It can be a result of a preference for producing standard food on a large scale and to adjust range, quantity and quality of production to effective demand. It can also be a consequence of simplifying the production process and of an efficient use of owned machines and equipment or a result of applying other methods of limiting risk. Among the farms examined, the number of entities with the acreage of up to 1 ha (of plots) decreased the most, which applied to all farm types. In the case of “mixed cropping” farms the pace of decrease in their number was similar for all area groups. However, in the case of “mixed crops-livestock” farms the share of small and medium farms (up to 20 ha) decreased, while the share of big and very big farms (20–100 ha) increased by 23.72%. The number of “mixed cropping and mixed

Table 1. Structure of farms according to agricultural type in Poland in 2007–2013 (%)

Tabela 1. Struktura gospodarstw rolnych według typu rolniczego w Polsce w latach 2007–2013 (%)

Year Lata	Type of farms – Typ gospodarstw								
	specialized in – specjalizujące się w					mixed – mieszane			
	field crops uprawach polowych	horti- cultural production uprawach ogrodni- czych	perma- nent crops uprawach trwałych	grazinglive- stock chowie zwie- rząt żywio- nych paszami objętościo- wymi	granivores chowie zwie- rząt żywio- nych paszami treściowymi	mixed cropping różne uprawy	mixed livestock holdings różne zwierzęta	mixedcrops- livestock różne uprawy i zwierzęta	non-classified holdings niesklasyfiko- wane
2007	27.07	1.52	5.27	17.08	4.88	8.92	9.98	20.62	4.66
2010	39.88	2.42	4.32	9.73	5.61	4.09	6.96	20.68	6.31
2013	49.19	1.86	4.47	11.34	2.50	3.45	5.65	19.44	2.10

Source: own elaboration based on GUS data.

Źródło: opracowanie własne na podstawie danych GUS.

Table 2. Number of farms with specified agricultural type and “mixed cropping” and “mixed crops-livestock” farms as per the acreage of lands possessed in the years 2007–2013

Tabela 2. Liczba gospodarstw z wyspecyfikowanym typem rolniczym oraz o typie „różne uprawy i zwierzęta” oraz „różne uprawy i zwierzęta” według powierzchni posiadanych użytków rolnych w latach 2007–2013

UAA Po- wierzchnia użytków rolnych	2007						2010						2013					
	all types łącznie wszystkie typy		mixed cropping różne uprawy		mixed crops-livestock różne uprawy i zwierzęta		all types łącznie wszystkie typy		mixed cropping różne uprawy		mixed crops-livestock różne uprawy i zwierzęta		all types łącznie wszystkie typy		mixed cropping różne uprawy		mixed crops-livestock różne uprawy i zwierzęta	
	number liczba	%	number- liczba	%	number liczba	%	number liczba	%	number liczba	%	number liczba	%	number liczba	%	number liczba	%	number liczba	%
In total Łącznie	239 0956	100	213 171	100	493 134	100	1 891 065	100	77 338	100	391 042	100	1 429 006	100	49 248	100	27 7810	100
0–1 ha	645 695	27.01	30 016	14.08	59 373	12.04	406 793	21.51	12 595	16.29	56 015	14.32	34 375	2.41	764	1.55	3 641	1.31
1–2 ha	388 346	16.24	32 165	15.09	77 081	15.63	300 590	15.90	14 938	19.32	45 901	11.74	277 572	19.42	12 131	24.63	39 055	14.06
2–3 ha	260 963	10.91	26 879	12.61	63 361	12.85	213 300	11.28	10 963	14.18	39 392	10.07	199 009	13.93	7 445	15.12	29 906	10.76
3–5 ha	330 478	13.82	38 979	18.29	96 592	19.59	276 472	14.62	14 233	18.40	64 302	16.44	256 259	17.93	10 025	20.36	47 346	17.04
5–10 ha	395 822	16.55	52 108	24.44	113 926	23.10	346 321	18.31	15 444	19.97	97 584	24.95	315 227	22.06	11 028	22.39	76 948	27.70
10–15 ha	165 723	6.93	18 286	8.58	40 434	8.20	151 517	8.01	4 892	6.33	42 748	10.93	141 295	9.89	3 930	7.98	35 758	12.87
15–20 ha	77 444	3.24	6 649	3.12	17 001	3.45	72 019	3.81	1 782	2.30	18 407	4.71	70 203	4.91	1 491	3.03	17 102	6.16
20–30 ha	65 226	2.73	4 699	2.20	12 791	2.59	61 126	3.23	1 240	1.60	14 004	3.58	62 511	4.37	1 057	2.15	14 466	5.21
30–50 ha	37 305	1.56	2 133	1.00	7 764	1.57	35 903	1.90	632	0.82	7 999	2.05	40 735	2.85	622	1.26	8 479	3.05
50–100 ha	15 933	0.67	896	0.42	3 333	0.68	17 136	0.91	357	0.46	3 235	0.83	20 743	1.45	388	0.79	3 699	1.33
100 and more 100 i więcej	8 020	0.34	361	0.17	1 478	0.30	988	0.05	262	0.34	1 455	0.37	11 077	0.78	368	0.75	1 411	0.51

Source: own elaboration based on GUS data.
Źródło: opracowanie własne na podstawie danych GUS.

crops-livestock” farms decreased in the period analysed by 76.90% and 43.66% respectively with a decrease of the number of farms of all the types by 40.23%.

Taking into consideration the economic size of farms that diversify production, it can be observed that over 45% of farms that diversify crops are very small (0–4 ESU). For comparison, “mixed crops-livestock” farms with their size of up to 4 ESU, constituted over 28% of these farms, while small farms (4–8 ESU) accounted for 48.68%. It should be noted that in 2013 compared to 2007 the number of farms with up to 4 ESU fell by 90% (Table 3). It can be supposed that part of them abandoned agricultural production, while part of them increased their strengths, and these were mainly “mixed crops-livestock” farms.

The average acreage of UAA in the period analysed increased from 7.32 to 9.22 ha in “mixed cropping” farms and from 8.54 to 12.39 ha in “mixed crops-livestock” farms. The share of the acreage of cultivated land in both types of the analysed farms was similar, while a considerable diversification of their structure can be observed (Table 4). In farms with plant and animal production, cultivated agricultural land (70.55%) and grassland (13.00%) constituted the largest share in the structure of agricultural land. This is connected with larger numbers of livestock. However, in farms that diversify crops dominated cultivated agricultural land (59.23%) and permanent crops (13.33%). These include plantation of trees and fruit shrubs, nursery of trees and fruit shrubs, ornamental bushes and those for commercial purposes. This production structure diversifies and improves income stability. Among the examined farms dominated entities with cereals and potatoes cultivation. This may be the result of a versatile usefulness of these plants. Both cereal grain and potatoes are consumption articles, but they can also be used for animal fodder (Table 5). This means that the production can be used for own needs and its small part for sales. Thus, it is a safety buffer and it ensures food supplies and a small income. The percentage of farms with the cultivation of industrial plants was relatively higher among “mixed crops-livestock” farms (10.27%) than in the case of “mixed cropping” farms (6.95%). There was a reverse situation in the case of other cultivations of agricultural plants, which were more frequently cultivated in “mixed cropping” farms. In one out of five farms that diversified crops field, vegetables and strawberries were grown, which are considered to be the most laborious and

capital-intensive crops, but are at the same time highly efficient ones. The number of farms with the production of leguminous plants and vegetables under shelter were of a limited significance among farms analysed.

Among mixed production farms the largest acreage was connected with industrial plant cultivations (6.2 ha on average) and cereals (5 ha). Other crops apart from leguminous plants and field vegetables (particularly in farms with mixed crops) were cultivated on a small acreage (below 1 ha). In the period analysed, the share of farms with the production of vegetables under shelter and strawberries increased in “mixed cropping” farms. In the structure of sowing, there was an increase in the acreage of industrial plant cultivations (by 2.54 ha), leguminous plants (by 1.08 ha), field vegetables (by 1.31 ha) and strawberries (by 0.62 ha). In the structure of plant and animal farms, the share of farms with cereals and industrial plants cultivation increased and the acreage of their crops grew. This may testify to a decreasing diversification of plant production in these farms. It should be noted that the dominance of cereals and industrial crops ensures an increased stabilization of farms’ functioning.

Those entities that keep poultry, cattle and pigs predominated in the multi-directional farms analysed. The share of farms that keep animals was substantially larger in plant and animal farms as compared to mixed plant farms (Table 6). In 2013, there was a reduction by 36.14% in the number of farms that kept animals in comparison to 2007. The greatest number of farms resigned from keeping goats (43.62%), poultry (42.15%), pigs (36.34%), cows (35.16%) and horses (34.97%). When analysing the structure of animals kept, it may be found that animal breeding in those farms that diversify crops was conducted only in some farms of the type analysed, and this was connected with keeping pigs (an average of 10 animals) and sheep (30 animals). In mixed plant and animal farms, similarly as in mixed plant farms, mainly kept were pigs (an average 23 animals) and sheep (22 animals) and small herds of cows (7 animals). The average number of other species of animals (i.e. goats, poultry and horses) was small. This may prove that they are kept mainly for farmers’ own needs or to be sold directly to consumers.

Table 3. Number of farms with specified agricultural type and “mixed cropping” and “mixed crops-livestock” farms as per economic size in 2007–2013
Tabela 3. Liczba gospodarstw z wyspecyfikowanym typem rolniczym oraz o typie „różne uprawy i zwierzęta” oraz „różne uprawy i zwierzęta” według wielkości ekonomicznej w latach 2007–2013

Economic size (ESU) Wielkość ekonomiczna	2007			2010			2013														
	all types łącznie wszystkie typy		mixed cropping różne uprawy	mixed crops-livestock różne uprawy i zwierzęta		all types łącznie wszystkie typy	mixed crops-livestock różne uprawy i zwierzęta		all types łącznie wszystkie typy	mixed cropping różne uprawy		mixed crops-livestock różne uprawy i zwierzęta									
	number liczba	%	number liczba	%	number liczba	%	number liczba	%	number liczba	%	number liczba	%	number liczba	%	change zmiana (%)	number liczba	%	change zmiana (%)			
0-2	1 624 237	67.93	139 348	62.44	315 917	64.06	854 261	45.17	29 463	38.10	95 460	26.06	402 781	28.19	-75.20	10 128	20.57	-92.73	29 003	10.44	-90.82
2-4	299 816	12.54	43 951	19.69	88 491	17.94	302 506	16.00	16 959	21.93	79 369	21.66	283 509	19.84	-5.43	12 398	25.18	-71.79	51 527	18.55	-41.77
4-6	138 560	5.80	17 413	7.80	33 510	6.80	276 631	14.63	13 963	18.05	99 970	27.29	262 110	18.34	89.16	10 464	21.25	-39.91	77 516	27.90	131.32
6-8	82 996	3.47	8 344	3.74	16 543	3.35	195 765	10.35	9 360	12.10	65 801	17.96	183 607	12.85	121.22	7 561	15.35	-9.38	57 727	20.78	248.95
8-12	95 707	4.00	7 630	3.42	16 035	3.25	113 130	5.98	4 275	5.53	2 743	0.75	113 031	7.91	18.10	4 208	8.54	-44.85	30 175	10.86	88.182
12-16	50 612	2.12	2 687	1.20	7 575	1.54	94 649	5.01	2 287	2.96	16 133	4.40	108 333	7.58	114.04	2 788	5.66	3.76	20 969	7.55	176.82
16-40	80 313	3.36	3 236	1.45	12 280	2.49	35 718	1.89	701	0.91	5 051	1.38	50 619	3.54	-36.97	1 093	2.22	-66.22	8 006	2.88	-34.8
40-100	14 556	0.61	407	0.18	2 078	0.42	16 223	0.86	302	0.39	1 457	0.40	22 598	1.58	55.24	553	1.12	35.87	2 522	0.91	21.367
100-250	2 902	0.12	93	0.04	412	0.08	1 382	0.07	17	0.02	216	0.06	1 564	0.11	-46.10	39	0.08	-58.06	204	0.07	-50.49
250 and more 250 i więcej	1 258	0.05	64	0.03	293	0.06	800	0.04	11	0.01	153	0.04	856	0.06	-31.95	15	0.03	-76.56	163	0.06	-44.37

Source: own elaboration based on GUS data.
 Źródło: opracowanie własne na podstawie danych GUS.

Table 4. Land acreage and directions of land use in “mixed cropping” and “mixed crops-livestock” farms in 2007–2013
Tabela 4. Powierzchnia gruntów i kierunki ich użytkowania w gospodarstwach o typie „różne uprawy” oraz „różne uprawy i zwierzęta” w latach 2007–2013

Acreage Powierzchnia	Mixed cropping – Różne uprawy						Mixed crops-livestock – Różne uprawy i zwierzęta																		
	2007			2010			2013			changes zmiana (%)			2007			2010			2013			change zmiana (%)			
	ha	%		ha	%		ha	%		ha	%		ha	%		ha	%		ha	%		ha	%		
Agricultural land Użytków rolnych	1 365 941	87.59		467 630	87.39		401 902	88.50		–70.58	3 697 712	87.78	3 472 676	88.61	3 056 322	88.95									–17.35
Sown Pod zasiewami	1 051 625	67.43		317 761	59.38		268 999	59.23		–74.42	2 822 510	67.01	2 769 900	70.68	2 424 301	70.55									–14.11
Fallow land Gruntów ugorowanych	23 572	1.51		16 071	3.00		13 324	2.93		–43.48	68 500	1.63	48 268	1.23	36 479	1.06									–46.75
Kitchen gardens Ogródków przydomowych	6 639	0.43		2 108	0.39		1 618	0.36		–75.63	12 469	0.30	9 629	0.25	7 439	0.22									–40.34
Grassland Łąk trwałych	166 552	10.68		52 437	9.80		43 882	9.66		–73.65	589 289	13.99	462 557	11.80	446 601	13.00									–24.21
Permanent pastures Pastwisk trwałych	37 775	2.42		7 892	1.47		7 455	1.64		–80.26	159 769	3.79	98 235	2.51	94 116	2.74									–41.09
Permanent crops Upraw trwałych	64 983	4.17		59 115	11.05		60 540	13.33		–6.84	21 187	0.50	29 155	0.74	22 670	0.66									7.00
Orchards Sadów	57 361	3.68		55 340	10.34		–	–		–	16 984	0.40	27 481	0.70	–	–									–
Other agricultural land Użytków rolnych pozostałych	14 795	0.95		12 247	2.29		6 084	1.34		–58.88	45 988	1.09	54 932	1.40	24 716	0.72									–46.26
Forests and forest land Lasów i gruntów leśnych	108 458	6.95		35 619	6.66		28 778	6.34		–73.47	290 602	6.90	251 422	6.42	215 567	6.27									–25.82
Other land Pozostałych gruntów	85 073	5.46		31 870	5.96		23 449	5.16		–72.44	224 011	5.32	195 056	4.98	164 206	4.78									–26.70

Source: own elaboration based on GUS data.
 Źródło: opracowanie własne na podstawie danych GUS.

Table 5. Number of “mixed cropping” and “mixed crops-livestock” farms according to crops types in 2007–2013
Tabela 5. Liczba gospodarstw o typie „różne uprawy” oraz „różne uprawy i zwierzęta” według rodzajów zasiewów w latach 2007–2013

Specification Wyszczególnienie	Mixed cropping – Różne uprawy						Mixed crops-livestock – Różne uprawy i zwierzęta					
	2007		2010		2013		changes zmiana (%)		2007		2010	
	number liczba	%	number liczba	%	number liczba	%	number liczba	%	number liczba	%	number liczba	%
Cereal Zboża	189 474	88.88	58 122	75.15	39 284	79.77	–79.27	–79.27	443 667	89.97	346 622	88.64
Leguminous crops Strączkowe jadalne	5 786	2.71	3 496	4.52	1 301	2.64	–77.51	–77.51	7 538	1.53	8 877	2.27
Potatoes Ziemniaki	161 563	75.79	42 549	55.02	22 212	45.10	–86.25	–86.25	344 785	69.92	249 376	63.77
Industrial crops Rośliny przemysłowe	19 613	9.20	5 411	7.00	3 423	6.95	–82.55	–82.55	35 207	7.14	40 026	10.24
Field vegetables Warzywa gruntowe	57 468	26.96	22 763	29.43	10 891	22.11	–81.05	–81.05	73 722	14.95	26 674	6.82
Vegetables under covers Warzywa pod osłonami	2 995	1.40	1 496	1.93	1 751	3.56	–41.54	–41.54	501	0.10	582	0.15
Strawberries Truskawki	26 765	12.56	12 014	15.53	9 408	19.10	–64.85	–64.85	31 097	6.31	18 461	4.72

Source: own elaboration based on GUS data.
 Źródło: opracowanie własne na podstawie danych GUS.

Table 6. Number of “mixed cropping” and “mixed crops-livestock” farms that keep various animal species of in the years of 2007–2013
Tabela 6. Liczba gospodarstw o typie „różne uprawy” oraz „różne uprawy i zwierzęta” utrzymujących różne gatunki zwierząt w latach 2007–2013

Specification Wyszczególnienie	Mixed cropping – Różne uprawy						Mixed crops-livestock – Różne uprawy i zwierzęta					
	2007		2010		2013		2007		2010		2013	
	number liczba	%	number liczba	%	number liczba	%	number liczba	%	number liczba	%	number liczba	%
Cattle – bydło	83 945	39.38	9 896	12.80	6 990	14.19	227 231	46.08	200 728	51.33	167 698	60.36
in that cows w tym krowy	74 084	34.75	7 330	9.48	5 403	10.97	205 304	41.63	164 652	42.11	133 124	47.92
Pigs – Trzoda chlewna	108 209	50.76	11 844	15.31	7 730	15.70	205 508	41.67	180 917	46.27	130 825	47.09
in that sows w tym lochy	50 869	23.86	5 823	7.53	3 350	6.80	112 467	22.81	113 735	29.09	88 446	31.84
Sheeps – owce	1 272	0.60	299	0.39	158	0.32	3912	0.79	3 454	0.88	2 841	1.02
Goats – kozy	7 172	3.36	826	1.07	578	1.17	13 949	2.83	10 227	2.62	7 864	2.83
Poultry – Drób	155 924	73.15	34 612	44.75	21 596	43.85	345 056	69.47	286 677	73.31	199 624	71.86
in that hens w tym kury nioski	141 869	66.55	28 236	36.51	18 581	37.73	317 912	64.47	250 901	64.16	182 955	65.86
Horses – Konie	16 217	7.61	1 749	2.26	1 513	3.07	53 726	10.89	36 254	9.27	34 935	12.58

Source: own elaboration based on GUS data.
 Źródło: opracowanie własne na podstawie danych GUS.

CONCLUSIONS

Specific features of agricultural production result in a much greater risk faced by farmers than the one faced by entities active in other sectors of the economy. The basic problem currently encountered by farmers is the environmental and market risk. Thus, the farmers are incapable of predicting exactly the process of production and its results. Production diversification that consists in adding variety and extending production to include different branches limits agricultural activity risk and it contributes to maintaining stability and financial security. It makes the farms less prone to weather and demand shocks. Large part (72.85%) of farms in Poland which diversify their production is concentrated among small farms (up to 10 ha and 0–4 ESU), where the production is used mainly for own needs, and only small part of it is sold (especially on local fairs or among neighbours). The smallest diversity of production characterizes the largest farms, i.e. with over 100 ha of UAA. These are commercial units with a high degree of automatization and mechanization. We can expect that they use other methods of protection against risk enabling income stabilisation and increase of financial security.

Summing up, in the case of small farms diversification acts as a safety buffer ensuring self-sufficiency in consumption and fodder production and some income. In larger farms (10–100 ha), apart from ensuring food, it limits negative consequences of risk resulting from fluctuations in yield and market prices, ensuring correct functioning of farms and their survival on the market. Thus, it is necessary to undertake measures supporting processes aimed at keeping a right number and size of cultivated UAA.

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ZNACZENIE DYWERSYFIKACJI PRODUKCJI W ZAPEWNIENIU BEZPIECZEŃSTWA FINANSOWEGO GOSPODARSTW ROLNYCH W POLSCE

Streszczenie. Celem opracowania jest określenie – na podstawie rozpoznania teoretycznego – znaczenia dywersyfikacji produkcji w aspekcie zapewnienia bezpieczeństwa finansowego gospodarstw rolnych oraz przedstawienie specyfiki wielokierunkowych gospodarstw rolnych w Polsce. Badaniem objęto podmioty prowadzące działalność rolniczą o typie rolniczym mieszane „różne uprawy” oraz „różne uprawy i zwierzęta” w latach 2007–2013. Analizę przeprowadzono na podstawie danych pochodzących z publikacji statystycznych Głównego Urzędu Statystycznego. Na ich podstawie przeprowadzono analizę struktury i dynamiki. W analizie uwzględniono powierzchnię użytków rolnych, wielkość ekonomiczną, powierzchnię gruntów i kierunki jej użytkowania, rodzaj i strukturę zasiewów oraz gatunki i pogłowie utrzymywanych zwierząt gospodarskich. Z przeprowadzonych rozważań teoretycznych wynika, że dywersyfikacja produkcji odgrywa ważną rolę w redukcji ryzyka działalności rolniczej, przyczyniając się do utrzymania stabilności i tym samym zachowania bezpieczeństwa finansowego gospodarstw rolnych. Wyniki badań empirycznych wskazują, że gospodarstwa różnicujące produkcję to w większości gospodarstwa małe obszarowo, o małej wielkości ekonomicznej, produkujące na własne potrzeby. Dla tych gospodarstw dywersyfikacja pełni funkcję bufora bezpieczeństwa, zapewniającego samowystarczalność w zakresie środków spożycia i produkcji pasz oraz niewielkie dochody. W większych obszarowo jednostkach gwarantuje przede wszystkim prawidłowe funkcjonowanie i przetrwanie na rynku.

Słowa kluczowe: gospodarstwa mieszane, stabilność finansowa, bezpieczeństwo finansowe, dywersyfikacja produkcji rolniczej

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