

DOROTA KOMOROWSKA

Warsaw University of Life Sciences – SGGW, Poland

SIZE AND EFFECTIVENESS OF FARMS SPECIALIZING IN THE PRODUCTION OF BEEF CATTLE ON THE BACKGROUND OF ALL AGRICULTURAL FARMS

Key words: beef cattle production, animal production, effectiveness in agriculture

ABSTRACT. The aim of the study is the assessment of the management effectiveness of production resources on farms of various sizes specializing in beef cattle production against the background of total results in farms covered by agricultural accounting in the FADN system in 2017. The assessment was carried out in terms of organization and the intensity of production, production and economic results as well as the efficiency of resource management. Production intensity on farms focused on beef cattle production was found to be clearly lower, therefore, productivity and profitability settled on a low level. For most farms specializing in beef cattle production, subsidies determined income, however, when their size increased, the share of subsidies in income generally dropped. Decreasing cost-intensity in production caused it. Accordingly, along with an increase in the size of the compared farm groups, the differences in the level of income and economic efficiency of resource management clearly decreased. Therefore, it can be assumed that the increase of farm size specializing in beef cattle production is a way to improve effectiveness, especially the economic effectiveness of resource management.

INTRODUCTION

The expansion of farms, farm specialization and increasing the scale of production on farms are the main factors of improving the management of resources in agriculture [Kołodziejczak 2015, Smędzik 2010, Sobczyński 2013, Vollrath 2007]. The size of farms determines the possibilities of their development because it influences the possibilities of their modernization, increasing the scale of production, increasing the efficiency and effectiveness of using production factors [Grochowska, Mańko 2014, Kuś 2012, Wicki 2019]. The possibilities of selling products on individual agricultural markets also depend on the size of farms and the scale of production.

In the case of beef cattle production in Poland, low domestic beef consumption is a factor, which has an inhibitory effect on the development of production. The situation on foreign beef markets and the possibility to export it is an opportunity to develop production [Litwińczuk, Grodzki 2014]. Over the past few years, there has been an increase in farmers' interest in cattle farming towards beef cattle production. It is caused by market conditions and the growing export of beef. The factor encouraging the development of

export is the price advantage of Polish beef on the EU market and the increase of demand for beef in Asian countries [GUS 2019, Zawadzka, Pasińska 2019].

Regarding the economics of farms specializing in the production of beef cattle, the scale of production is sufficient. Research shows that the condition to obtain a higher income from the production of beef cattle is to conduct it on a respectively large scale [Skarżyńska 2017]. The conducted analyses show a clear differentiation of the level of animal maintenance costs in relation to scale size. Therefore, the increase in the scale of beef slaughter cattle production encourages the improvement of economic efficiency of its production [Skarżyńska 2009, Skarżyńska, Abramczuk 2018].

The GUS (Poland's Central Statistical Office) research shows that farms focused on maintaining ruminants (mainly cattle, including cattle for slaughter) are increasing in their area and scale of production. In 2016, the average utilized agricultural area of farms specializing in maintaining ruminants was 16.37 ha, in 2013 – 15.83 ha, and in 2010 – 15.27 ha. In 2016, there were 17.3 of such animals per 1 cattle farm compared to 14 animals in 2013 and 11 animals in 2010 [GUS 2014, 2017], which indicates an increase in the scale of cattle farming as well as the scale of cattle for slaughter.

RESEARCH MATERIAL AND METHODS

The aim of the study is the assessment of the effectiveness of production management sources on farms of different sizes focused on beef cattle production against a background of all farms. Farms that were covered by agricultural accounting in the FADN system in 2017 were assessed. According to the assumptions of this system, they were only commercial farms [Goraj, Mańko 2009]. For simplicity, farms specializing in beef cattle production were briefly described as farms with cattle for slaughter. Due to this fact, that the FADN system fails to incorporate slaughter cattle farms below 5 ha of ULA, the study only includes agricultural holdings exceeding 5 hectares, which were categorized into the following groups UAA: 5-10 ha (small), 10-20 and 20-30 ha (medium), 30-50 ha (large) and above 50 ha (extremely large).

A comparative analysis of test farms was carried out in the field of resources, organization and intensity of production, production and economic results as well as the effectiveness of management of resources (productivity and profitability of resources). The measure of the effectiveness of the use of production factors in agriculture is the relation of production and economic results of agricultural holdings to the contribution of factors to production processes [Józwiak 1998, Kapusta 2012]. Relating the production results appropriately allows for the assessment of resource productivity (land productivity, economic work efficiency, capital productivity), while relating economic results gives an understanding of resource profitability (profitability of land resources, labour input and invested capital). In accordance with the methodology of the FADN, the category of total production was used to measure production results, and the economic results: income from a family farm, defined in the study as farm income.

RESEARCH RESULTS

The average UAA of compared farms within the specified area groups differed slightly in the following groups: 5-10, 10-20, 20-30 and 30-50 ha of UAA, while in the group over 50 ha of UAA it was smaller on farms specializing in beef cattle production than on total farms (by over 15%) (Table 1). The compared farms used land resources that were partly leased. With the increase in their size, the share of leased land increased significantly (from about 10% on small farms to over 40% on very large ones).

The FADN agricultural accounting data shows that the total annual labor input per full-time employee per year (in AWU¹) was clearly lower on farms focused on slaughter cattle than on total farms (Table 1). Labour input on farms of the cattle for slaughter type was lower in all area groups except for very large farms, which resulted from a lower labor intensity of production (measured by the level of labour expenditure per 100 ha of

Table 1. Production resources of researched farms according to UAA size

| Farms | Group sizes [ha UAA] | | | | |
|--|----------------------|-------------------|----------------------------|------------------|-------------------------|
| | 5-10 (small) | 10-20 (medium) | 20-30 (medium large) | 30-50 (large) | over 50 (very large) |
| Number of farms | | | | | |
| Total | 1,170 | 3,485 | 2,431 | 2,492 | 2,205 |
| Type cattle for slaughter | 148 | 421 | 244 | 173 | 83 |
| Average UAA [ha] | | | | | |
| Total | 8.0 | 15.0 | 24.8 | 38.9 | 92.7 |
| Type cattle for slaughter | 8.1 | 14.7 | 24.6 | 38.4 | 78.7 |
| Total labour input [AWU] | | | | | |
| Total | 1.61 | 1.70 | 1.80 | 1.90 | 2.23 |
| Type cattle for slaughter | 1.39 | 1.56 | 1.61 | 1.66 | 1.94 |
| Share of paid labour [%] | | | | | |
| Total | 11.8 | 7.6 | 6.7 | 8.0 | 18.4 |
| Type cattle for slaughter | 0.7 | 0.6 | 0.8 | 2.4 | 6.1 |
| Total labour input per 100 ha UAA [AWU] | | | | | |
| Total | 20.1 | 11.3 | 7.3 | 4.9 | 2.4 |
| Type cattle for slaughter | 17.2 | 10.6 | 6.5 | 4.3 | 2.4 |
| Total assets per 1 ha UAA [thousand PLN] | | | | | |
| Total | 61.4 | 50.1 | 44.1 | 40.2 | 32.5 |
| Type cattle for slaughter | 52.0 | 47.6 | 39.6 | 37.1 | 25.9 |

Source: own elaboration based on [FADN 2018, 2019]

¹ AWU – the unit of measurement of labour input pursuant to FADN methodology: 1 AWU is equivalent to 2,200 hours of work/year. Labour input charts the labour input of the farmer and the farmer's family (FWU) as well as the paid labour input (AWU).

UAA) on these farms. On very large farms, for cattle for slaughter, labour intensity of production was at the same level as on total farms, which was associated with a higher proportion of own feed used in animal nutrition. The share of wage labour on farms aimed at raising cattle for slaughter was also relatively much smaller – on small and medium-sized farms it did not exceed 1%, on the largest it reached 6% (on small total farms it was almost 12%, medium farms about 7%, and on the largest 18%).

Capital resources of agricultural holdings in the form of fixed and current production assets are illustrated by total assets. Their value per 1 ha of UAA, i.e. capital intensity of production, was relatively lower in all area groups of farms focused on slaughter cattle production (Table 1). The largest differences occurred in the largest farms (by over 20%).

The organization of production in the analysed farms was characterized by the following indicators: the share of cereals and fodder crops in the sown area, the share of permanent grassland in the agricultural area, total livestock and total cattle in LU² per 100 ha of UAA and forage area per 1 LU of ruminants (Table 2).

On farms specializing in beef cattle production, the share of cereal in the sown structure was slightly higher than on total farms and was found to be in the range of 54-70% (on total farms 52-66%), the share of permanent grassland in agricultural area was significantly larger – 27-42% (on farms in total 10-20%) and the largest was on farms with an area of over 50 ha of UAA. In addition, on farms focused on beef cattle production, the share of fodder crops in the sown area was also much larger and increased with the increase in the size of farms (on farms with an area of over 30 ha of UAA it was about 30%). This resulted in an increase in the share of roughage in animal nutrition on larger farms. By definition, beef cattle production should use a low input system, i.e. natural grassland and roughage with limited doses of concentrated feed, because the production system is important for economic reasons [Skarżyńska 2017, Wójcik 2011].

The density of total livestock and total cattle was relatively higher on farms specializing in beef cattle and, along with the increase in their size, showed a tendency commonly found on cattle farms. In this type of farms, i.e. those specializing in the production of milk or cattle for slaughter, the largest density of total livestock and total cattle is recorded in the area group 10-20 ha of UAA (on pig farms and total number of farms in the area group 20-30 ha of AL, respectively). However, the smallest density of livestock has the largest farms in all production types, which also took place on the analysed farms.

On farms specializing in beef cattle, the forage area per 1 conversion unit (LU) of ruminants was generally larger and generally increased with the increase in their size. On farms with an area of over 50 ha UAA, the forage area was much higher than on smaller farms of this type, which was associated with a relatively higher percentage of fodder crop area, especially permanent grassland, and a smaller stocking density.

The measure of production intensity on a farm is the level of production costs per unit of UAA [Goraj, Mańko 2009, Ziętara 2017]. Farms focused on raising cattle for slaughter carry out relatively less intensive production and this was also the case in the researched farms (Table 2), which resulted mainly from feeding animals with roughage in the grazing system. The feed used was mainly produced on farms (approx. 70% on average).

² LU – the unit of livestock pursuant to FADN methodology equal to 1 dairy cow or cull dairy cow or bull aged 2+.

Table 2. Organization and production intensity of researched farms according to UAA size

| Farms | Group sizes [ha UAA] | | | | |
|--|----------------------|-------------------|-------------------------|------------------|-------------------------|
| | 5-10 (small) | 10-20 (medium) | 20-30 (medium large) | 30-50 (large) | over 50 (very large) |
| Cereal share in sown area [%] | | | | | |
| Total | 65.6 | 64.3 | 59.4 | 57.5 | 52.0 |
| Type cattle for slaughter | 69.9 | 65.2 | 61.0 | 58.7 | 54.1 |
| Fodder crop share in sown area [%] | | | | | |
| Total | 9.0 | 14.4 | 17.4 | 15.6 | 8.4 |
| Type cattle for slaughter | 21.5 | 23.5 | 25.7 | 28.3 | 27.9 |
| Permanent grassland share in agricultural area [%] | | | | | |
| Total | 16.7 | 17.9 | 20.0 | 16.7 | 9.5 |
| Type cattle for slaughter | 29.4 | 28.1 | 29.1 | 26.5 | 41.7 |
| Total livestock per 100 ha of UAA [LU] | | | | | |
| Total | 81.5 | 98.6 | 99.8 | 89.4 | 52.2 |
| Type cattle for slaughter | 90.4 | 95.6 | 85.1 | 92.2 | 74.0 |
| Total cattle per 100 ha of UAA [LU] | | | | | |
| Total | 34.5 | 54.6 | 61.0 | 52.4 | 25.4 |
| Type cattle for slaughter | 78.6 | 83.4 | 75.9 | 76.0 | 69.1 |
| Forage area per 1 LU of ruminants [ar/LU] | | | | | |
| Total | 65,5 | 52,7 | 54,6 | 55,9 | 66,6 |
| Type cattle for slaughter | 56,4 | 53,5 | 61,7 | 61,9 | 82,7 |
| Total costs per 1 ha of UAA [thousand PLN] | | | | | |
| Total | 8.70 | 6.08 | 5.84 | 5.69 | 4.85 |
| Type cattle for slaughter | 4.79 | 4.57 | 3.90 | 4.00 | 2.97 |

Source: as in Table 1

Along with an increase in the size of compared farms, the level of production intensity decreased, while within the compared groups the largest differences occurred in small farms (by 45%), and the smallest in the area group 10-20 ha of UAA (by 25%), where farms of beef cattle type recorded the largest total density of animals and cattle in total.

Production results measured by the level of the total production value on farms focused on raising cattle for slaughter were at a much lower level than in the total number of farms (Table 3). The largest differences in their level occurred in small farms (by 56%), and the smallest in the area group 10-20 ha of UAA (by 40%), in which farms specializing in beef cattle also had the smallest difference in the level of production intensity (by 25%) in relation to all farms.

On farms focused on raising cattle for slaughter, production results were primarily shaped by the production of beef cattle, which constituted, on average, about 55% of the total production value. Cereal production (on average around 20%) and milk production (around 12%) had a significant share in the results of these farms, while on total farms - cereal production (around 22%), milk (17%), pigs (12 %) and vegetables (9%).

Table 3. Production value and resource productivity of the researched farms according to UAA

| Farms | Group sizes [ha UAA] | | | | |
|--|----------------------|-------------------|-------------------------|------------------|-------------------------|
| | 5-10 (small) | 10-20 (medium) | 20-30 (medium large) | 30-50 (large) | over 50 (very large) |
| Total production [thousand PLN] | | | | | |
| Total | 83.97 | 114.65 | 184.23 | 283.09 | 557.32 |
| Type cattle for slaughter | 37.14 | 68.33 | 100.89 | 157.21 | 254.65 |
| Soil productivity [PLN/ha] | | | | | |
| Total | 10 513 | 7 636 | 7 436 | 7 279 | 6 015 |
| Type cattle for slaughter | 4 562 | 4 634 | 4 109 | 4 097 | 3 236 |
| Economic labour efficiency [thousand PLN/AWU] | | | | | |
| Total | 52.26 | 67.58 | 102.11 | 148.72 | 250.46 |
| Type cattle for slaughter | 26.82 | 43.74 | 62.76 | 94.76 | 125.02 |
| Productivity per PLN 100 of total assets [PLN] | | | | | |
| Total | 17.1 | 15.3 | 16.8 | 18.1 | 18.5 |
| Type cattle for slaughter | 8.9 | 9.8 | 10.4 | 11.1 | 12.5 |

Source: as in Table 1

In farms keeping cattle for slaughter, resource productivity, similarly to production results, was at a much lower level than in the total number of farms (Table 3). The largest and smallest differences in its level between the compared groups of area size of these farms occurred in the same groups as the differences in the level of production results.

With an increase in the size of the farms surveyed, the productivity of land resources generally deteriorated, including more slowly on slaughter cattle farms. On this type of farms, the highest level was obtained by farms of the area group 10-20 ha of UAA, in which, compared to the total number of farms, differences in the level of production intensity and production results were the smallest.

With an increase in farm size, the productivity of labour resources increased markedly, but more slowly on slaughter cattle farms, which resulted from the organization and labour intensity of the production of these farms. On the other hand, the productivity of capital generally increased, especially on farms specializing in the production of beef cattle, which was associated with a greater decrease in the capital intensity of production along with an increase in the size of this type of farms.

The economic results of the researched farms are presented in Table 4. Income from a farm on farms specializing in the production of beef cattle, similarly to production results, was at a much lower level in relation to the total number of farms. A comparative analysis of differences in the level of income within the area groups of researched farms showed the smallest differences in the group of 20-30 ha of UAA – by 32% (the largest differences occurred in small farms – by 58%).

According to the FADN methodology, when calculating farm income, subsidies for production and investment activities of agricultural holdings are included. In case of the majority of researched farms focused on beef cattle production, subsidies conditioned farm income, because they covered losses and shaped positive final results.

As the size of farms and the scale of production on this type of farms increased, the share of subsidies in income generally decreased and was the smallest on farms with an area over 50 ha of UAA (Table 4). Farms of the cattle for slaughter type of this area group and 20-30 ha of UAA obtained positive economic results of their activity (income without subsidies). In the case of farms with an area of 20-30 ha of UAA, the smallest distance in the level of income was also noted in relation to all farms. However, in the case of farms with an area of over 50 ha of UAA, the most favourable relation between the level of costs and production results was obtained, i.e. in this area group the costs of consumption of production was the lowest. Thus, confirmation of previous research results was shown that an increase in the scale of slaughter cattle production contributes to the improvement of the economic efficiency of its production [Skarżyńska 2009, 2017, Skarżyńska, Abramczuk 2018].

Due to the fact that the level of income obtained was relatively low on farms focused on the production of beef cattle, the profitability of resources was also lower on these farms. Larger differences occurred in smaller farms. In the case of profitability of land resources, the differences in these farms were as follows: in small farms by 59%, in the largest by 30%, in the case of own work profitability – by 56 and 39%, respectively, and in the case of profitability of capital – by 49 and 12%.

With an increase in farm size, the profitability of land resources generally deteriorated on total farms, while on farms of cattle for slaughter type no such trend was noted (Table 4). In this type of farms, the largest economic efficiency in the management of

Table 4. Income and profitability of resources of researched farms according to UAA size

| Farms | Group sizes [ha UAA] | | | | |
|---|----------------------|-------------------|-------------------------|------------------|-------------------------|
| | 5-10 (small) | 10-20 (medium) | 20-30 (medium large) | 30-50 (large) | over 50 (very large) |
| Farm income [thousand PLN] | | | | | |
| Total | 25.72 | 46.28 | 79.04 | 118.44 | 223.11 |
| Type cattle for slaughter | 10.76 | 25.12 | 47.18 | 62.60 | 133.24 |
| Share of subsidies in the farm [%] | | | | | |
| Total | 49.9 | 54.3 | 54.1 | 52.4 | 53.9 |
| Type cattle for slaughter | 133.9 | 111.0 | 99.1 | 103.6 | 92.7 |
| Farm income per 1 ha of UAA [PLN] | | | | | |
| Total | 3 213 | 3 087 | 3 185 | 3 045 | 2 407 |
| Type cattle for slaughter | 1 322 | 1 704 | 1 922 | 1 632 | 1 693 |
| Own labour profitability [thousand PLN/FWU] | | | | | |
| Total | 18.11 | 29.48 | 47.05 | 67.68 | 122.59 |
| Type cattle for slaughter | 7.80 | 16.21 | 29.49 | 38.64 | 74.02 |
| Total asset profitability [%] | | | | | |
| Total | 5.3 | 6.2 | 7.2 | 7.6 | 7.4 |
| Type cattle for slaughter | 2.7 | 3.6 | 4.8 | 4.4 | 6.5 |

Source: as in Table 1

land resources was achieved by farms of 20-30 ha UAA, in which the differences in the level of income were the smallest compared to all farms.

Along with an increase in farm size, the profitability of labour resources clearly increased, especially in farms of cattle for slaughter type, which was associated with a larger increase in income on these farms (along with an increase in their size). On the other hand, the profitability of capital generally increased, including more on farms specializing in beef cattle production, which resulted from a larger increase in income and a larger decrease in capital intensity of production along with an increase in the size of this type of farm.

CONCLUSIONS

The studied agricultural holdings of various sizes, specializing in beef cattle production, compared to the total number of farms involve much lower labour input and lower capital value in relation to land resources. The level of production intensity on these farms was clearly lower, which resulted mainly from feeding animals with roughage. Used forage was mainly produced on farms (approximately 70% on average). Therefore, the production efficiency of management of resources on farms focused on beef cattle production, as well as production results, was at a much lower level. As the size of the compared farms increased, the productivity of land resources generally deteriorated, but less on farms of cattle for slaughter type. The productivity of labour resources increased, however slower on farms of cattle for slaughter type, which resulted from the organization and labour intensity of the production of these farms. On the other hand, capital productivity increased more on farms of cattle for slaughter type, which was associated with a larger decrease in the capital intensity of production along with an increase in their size.

Farms specializing in beef cattle production also obtained economic results (income with subsidies) at a relatively low level. For most of these farms, subsidies determined income, but as their size increased, the share of subsidies in income generally decreased, because the costs of production consumption decreased. Therefore, along with an increase in the size of the compared groups of farms, the differences in the level of income and economic efficiency of resource management clearly decreased. Within individual production factors, along with the increase in farm size, the profitability of land resources deteriorated in total farms, and in farms of cattle for slaughter type this trend was not noted, while the profitability of labour and capital increased more in farms of cattle for slaughter type.

Thus, increasing the farm size specializing in beef cattle production leads to a clear improvement in effectiveness, especially the economic effectiveness of resource management.

BIBLIOGRAPHY

- FADN. 2018. *Wyniki standardowe 2017 uzyskane przez gospodarstwa rolne uczestniczące w Polskim FADN* (Standard results 2017 obtained by agricultural holdings participating in the Polish FADN). Warszawa: IERiGŻ-PIB.
- FADN. 2019. *Parametry techniczno-ekonomiczne według grup gospodarstw rolnych uczestniczących w Polskim FADN w 2017 roku* (Technical and economic parameters by groups of farms participating in the Polish FADN in 2017). Warszawa: IERiGŻ-PIB.

- Goraj Lech, Stanisław Mańko. 2009. *Rachunkowość i analiza ekonomiczna w indywidualnym gospodarstwie rolnym* (Accounting and economic analysis in an individual farm). Warszawa: Difin.
- Grochowska Renata, Stanisław Mańko. 2014. Produktywność gospodarstw rolnych w Polsce na tle innych krajów (The agricultural productivity of the Polish farms as compared to other countries). *Zeszyty Naukowe SGGW w Warszawie. Problemy Rolnictwa Światowego* 14 (1): 25-33.
- GUS (Central Statistical Office – CSO). 2014. *Charakterystyka gospodarstw rolnych w 2013 r.* (Characteristics of farms in 2013). Warszawa: GUS.
- GUS (Central Statistical Office – CSO). 2017. *Charakterystyka gospodarstw rolnych w 2016 r.* (Characteristics of farms in 2016). Warszawa: GUS.
- GUS (Central Statistical Office – CSO). 2019. *Rolnictwo w 2018 r.* (Agriculture in 2018). Warszawa: GUS.
- Józwiak Wojciech. 1998. *Efektywność gospodarowania w rolnictwie. Encyklopedia agrobiznesu* (Farming efficiency in agriculture. Agribusiness encyclopedia). Warszawa: Fundacja Innowacyjna.
- Kapusta Franciszek. 2012. *Agrobiznes* (Agribusiness). Warszawa: Difin.
- Kołodziejczak Małgorzata. 2015. Efektywność wykorzystania czynników produkcji w rolnictwie polskim na tle Unii Europejskiej (Efficiency of Production Factors in Agriculture of Poland and European Union). *Więś i Rolnictwo* 167 (2): 169-191.
- Kuś Jan. 2012. Produkcyjne i środowiskowe następstwa specjalizacji gospodarstw rolniczych. [W] *Problemy zrównoważonego gospodarowania w produkcji rolniczej* (Production and environmental consequences of farm specialization. [In] *Problems of sustainable management in agricultural production*). *Studia i Raporty IUNG-PIB* 29 (3): 103-120.
- Litwińczuk Zygmunt, Henryk Grodzki. 2014. Stan hodowli i chowu bydła w Polsce oraz czynniki warunkujące rozwój tego sektora (The state of breeding and rearing of cattle in Poland and factors determining the development of this sector). *Przegląd Hodowlany* 6: 1-5.
- Skarżyńska Aldona. 2009. Opłacalność chowu krów mamek i produkcji żywca wołowego (Profitability of suckler cow rearing and live cattle production). *Wiadomości Zootechniczne XLVII* (3): 25-35.
- Skarżyńska Aldona. 2017. Produkcja wołowiny w Polsce oraz czynniki determinujące jej opłacalność (Beef production in Poland and factors determining its profitability). *Roczniki Naukowe Ekonomii Rolnictwa i Rozwoju Obszarów Wiejskich* 104 (4): 112-124.
- Skarżyńska Aldona, Łukasz Abramczuk. 2018. *Wyniki ekonomiczne wybranych produktów rolniczych w 2017 roku* (Economic results of selected agricultural products in 2017). Warszawa: IERiGŻ-PIB.
- Smędzik Katarzyna. 2010. Problem skali produkcji w różnych typach indywidualnych gospodarstw rolnych w Polsce z zastosowaniem modeli DEA (Problems of production scale in different types of individual farms in Poland using DEA method). *Roczniki Naukowe SERiA XII* (3): 343-348.
- Sobczyński Tadeusz. 2013. Wybrane uwarunkowania relacji ziemia-praca w gospodarstwach rolniczych Unii Europejskiej (Selected determinants of land-labor relations in European Union Farms). *Roczniki Naukowe SERiA XV* (6): 271-277.
- Vollrath Dietrich. 2007. Land distribution and international agricultural productivity. *American Journal of Agricultural Economics* 89 (1): 202-216.
- Wicki Ludwik. 2019. Size vs effectiveness of agricultural farms. *Annals PAAAE XXI* (2): 285-296.
- Wójcik Piotr. 2011. Ekonomiczne aspekty produkcji mięsa wołowego w Polsce (Economic aspects of beef production in Poland). *Przegląd Hodowlany* 4: 20-22.
- Zawadzka Danuta, Dorota Pasińska. 2019. Aktualny i przewidywany stan rynku wołowiny (Current and projected condition of the beef market). *Rynek mięsa, stan i perspektywy* 56: 28-43.
- Ziętara Wojciech. 2017. Pozycja konkurencyjna polskich gospodarstw rolnych z uwzględnieniem typów rolniczych (Competitive position of Polish farms including agricultural types). *Roczniki Naukowe SERiA XIX* (3): 319-324.

WIELKOŚĆ A EFEKTYWNOŚĆ GOSPODARSTW SPECJALIZUJĄCYCH SIĘ W PRODUKCJI ŻYWCA WOŁOWEGO NA TLE OGÓŁU GOSPODARSTW ROLNYCH

Słowa kluczowe: produkcja żywca wołowego, produkcja zwierzęca, efektywność w rolnictwie

ABSTRAKT

Celem opracowania jest ocena efektywności gospodarowania zasobami w gospodarstwach specjalizujących się w produkcji żywca wołowego o różnej wielkości, na tle wyników ogółu gospodarstw rolnych objętych rachunkowością rolną w systemie FADN w 2017 roku. Ocenę przeprowadzono w zakresie organizacji i intensywności produkcji, wyników produkcyjnych i ekonomicznych oraz efektywności gospodarowania zasobami. Poziom intensywności produkcji w gospodarstwach nastawionych na chów bydła rzeźnego był wyraźnie niższy, dlatego wyniki produkcyjne, a także ekonomiczne ukształtowały się na znacznie niższym poziomie. W przypadku większości gospodarstw typu bydło rzeźne dopłaty warunkowały dochód, ale w miarę wzrostu ich wielkości udział dopłat w dochodzie na ogół zmniejszał się, ponieważ kosztocłonność produkcji obniżała się. W związku z tym wraz ze wzrostem wielkości porównywanych grup gospodarstw różnice w poziomie dochodów i efektywności ekonomicznej gospodarowania zasobami wyraźnie zmniejszały się. Zatem powiększanie gospodarstw specjalizujących się w produkcji żywca wołowego prowadzi do poprawy efektywności, zwłaszcza efektywności ekonomicznej gospodarowania zasobami.

AUTHOR

DOROTA KOMOROWSKA, DR HAB.

ORCID: 0000-0002-9881-7785

Warsaw University of Life Sciences – SGGW

Institute of Economics and Finance

Department of International Economics and Agribusiness

166 Nowoursynowska St., 02-787 Warsaw, Poland