

## THE STRATEGIES OF STOCK MANAGEMENT ON FARMS IN THE LUBLIN PROVINCE

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Досліджено методи управління польськими фермерськими господарствами у розрізі окремих видів виробництв, вироблення стратегій їхнього розвитку. Наведено результати опитувань фермерів щодо адекватності використовуваних управлінських концепцій, в т. ч. засадних принципів управління запасами. Сформульовано окремі аспекти підвищення рівня ефективності управління запасами на польських фермерських господарствах.

**Ключові слова:** фермерське господарство, виробництво, сільськогосподарська продукція, стратегія, управління, запаси, облік, внутрішня звітність

The paper presents opinions of farmers on strategies for the management of stocks in farms of Lublin province. The purpose of research was to define the strategies as well as the farmers' plans concerning stock management on farms in Lublin province. The choice of farms has been intentional. The research constitutes of the entities from the Lublin province taking part in the Polish system of FADN (Farm Accountancy Data Network) which run agricultural accountancy supervised by the Institute of Agricultural and Food Economics in Warsaw (IERiGŻ-PIB).

The research has been conducted with the method of direct interview on the sample of 62 farms taking part in PL-FADN. The research was conducted in 2010 with the use of questionnaire among the owners of agricultural entities of the Lublin province. The farmers could provide more than one answer to a given question. The choice of Lublin province was based on typical agricultural character of the region where agriculture is the main economy sector.

The research entities were divided on the basis of agricultural type and the area. Taking agricultural type into consideration, the farms were divided into: field crops (1), other grazing livestock (including milk) (5,6), granivores (7), mixed (8). In terms of area (Agricultural Area– ha), there were four groups: small ( $5 \leq 10$  ha), medium-small ( $10 \leq 20$  ha), medium-large ( $20 \leq 30$  ha), large ( $30 \leq 50$  ha). The horticultural (2) types of farms, wine (3), other permanent crops (4), areas up to 5 ha and over 50 ha were excluded from the research because of their small number.

The reserves constitute a significant part of property of the majority of economic entities including farms. The efficient functioning of farms depends on appropriate stock management. Agriculture is a specific sector of the economy where the stock level is kept relatively high. It results from the peculiarity of agricultural production, seasonal production and the course of vegetation conditions. Rational stock management is one of the ways to save costs.

Based on the survey, it was found that the main element of circulating property in agricultural entities in the Lublin province are money resources and the store of goods and finished products with the market outlet. The highest stock level is admitted by the farmers running the entities of the area of 30-50 ha UR and of the mixed type of agriculture. It has been stated that the stock of finished products with the market outlet is the most common in case of farms specializing in the inbreeding of granivorous animals. It results from the fact that the livestock production is characterized by permanent cycles of production.

The owners of agricultural entities have given the maintenance of optimum stock level as a strategy of management. It is a positive tendency which reflects the rational stock

management in the agricultural entities in the Lublin province. The farmers specializing in livestock production have often given the maximizing of individual stock of agricultural products as characteristic to their strategy of stock management. It has been mostly common in case of small (5-10ha AL) and medium-small farms (10-20 ha AL). The owners of agricultural entities in the Lublin province most often plan the stock maintenance on the same level. It has been proven that they consider the past management politics of the assets as appropriate and do not need to change it. The improvement of the stock level in agricultural entities has been given to be continued in the future.

**Key words:** farm, manufacturing, agricultural products, strategy, management, inventory, accounting, internal accounting

**Introduction.** The reserves are a significant constituent of the majority of economic entities. They have a direct influence on the achieved financial result and property situation of an economic entity<sup>1</sup>. The reserves are undeveloped material goods maintained by an economic entity for the future use. They constitute one of the main parts of an enterprise's circulating assets and usually occur in the form of raw materials, semi-products, parts used in the productive process or ready makes<sup>2</sup>. The stock management requires comprehensive knowledge of logistical and financial aspects of this field, especially concerning costs connected with stock maintenance and order<sup>3</sup>.

The efficient functioning of farms depends on appropriate stock management. The stock maintenance on farms is necessary in order to ensure the continuity of productive processes, economic continuity, the maintenance of appropriate readiness of the produced agricultural products as well as to prevent price changes<sup>4</sup>.

The stock maintenance is costly. That is why there is often pressure to decrease it, which is a part of costs management strategies of a given enterprise<sup>5</sup>. Rational stock management is one of the ways to save costs and increase income<sup>6</sup>. Stock management can be described as a business which aims at stock maintenance on a level ensuring an appropriate functioning of an enterprise with its simultaneous minimizing for the sake of costs of maintenance and limited material allotments. The stock management is a group of methods and means which make it possible to optimize the level and structure of the reserves with the maintenance of supply continuity and commodity turnover<sup>7</sup>.

Agriculture is a specific sector of the economy where the stock level is kept relatively high. It results from the peculiarity of agricultural production, seasonal production and the course of vegetation conditions. What is more, past ways of stock management on farms allow for traditional approach to running business which consists in the use of its own products used as feed as far as livestock production is concerned. In the situation of increasing competition of the agricultural market, especially after the accession of Poland to the European Union, the stock management is crucial to be rational which can contribute to the increase of business effectiveness. The improvement of stock level leads to the decrease of costs as well as the increase of income on farms<sup>8</sup>.

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<sup>1</sup> *Rachunkowość finansowa i podatkowa*, edited by T. Cebrowska, PWN, Warszawa 2005.

<sup>2</sup> M. Wasilewski, *Ekonomiczno-organizacyjne uwarunkowania gospodarowania zapasami w przedsiębiorstwach rolniczych (Economic and organizational conditions of stocks management In agricultural enterprises)*, Rozprawy Naukowe i Monografie, SGGW, Warszawa 2004.

<sup>3</sup> M. Sierpińska, D. Wędzki, *Zarządzanie płynnością finansową w przedsiębiorstwie*, PWN, Warszawa 2002.

<sup>4</sup> M. Kuboń, *Racjonalna gospodarka zapasami w opinii rolników (Rational management of reserves In farmers opinion)*, Inżynieria Rolnicza, nr 3(121), Kraków 2010.

<sup>5</sup> E.F. Brigham, J.F. Honston, *Podstawy zarządzania finansami*, PWE, Warszawa, 2005.

<sup>6</sup> R. Ryś-Jurek, *The output, Incomes and assets-capital relations In the individual farms*, Journal of Agribusiness and Rural Development, 1(11), 2009.

<sup>7</sup> M. Wasilewski, *Ekonomiczno-organizacyjne uwarunkowania gospodarowania zapasami w przedsiębiorstwach rolniczych (Economic and organizational conditions of stocks management In agricultural enterprises)*, Rozprawy Naukowe i Monografie, SGGW, Warszawa 2004.

<sup>8</sup> M. Wasilewski, *Wybrane zagadnienia klasyfikacji i gospodarowania zapasami w Rolnictwie (Selected issues of classification and management of stocks in Agriculture)*, Wieś Jutra, nr 1(138), 2010.

**The purpose and methods of the study.** The purpose of research was to define the strategies as well as the farmers' plans concerning stock management on farms in Lublin province.

The choice of farms has been intentional. The research constitutes of the entities from the Lublin province taking part in the Polish system of FADN (Farm Accountancy Data Network) which run agricultural accountancy supervised by the Institute of Agricultural and Food Economics in Warsaw (IERiGŻ-PIB).

The entities supervised by the Polish FADN are economy based farms taking a significant part in creating of the value added of agriculture. In 2008 in the Lublin province there were 1031 farms. 62 of them were included in the research which constituted 6 % of their population. There was a proportional choice method applied. The choice criteria were agricultural type as well as the area of arable land (ha). The research was conducted in 2010 with the use of questionnaire among the owners of agricultural entities of the Lublin province. The farmers could provide more than one answer to a given question. The choice of Lublin province was based on typical agricultural character of the region where agriculture is the main economy sector.

The research entities were divided on the basis of agricultural type and the area. Taking agricultural type into consideration, the farms were divided into:

- field crops (1),
- other grazing livestock (including milk) (5,6),
- granivores (7),
- mixed (8).

In terms of area (Agricultural Area– ha), there were four groups:

- small ( $5 \leq 10$  ha),
- medium-small ( $10 \leq 20$  ha),
- medium-large ( $20 \leq 30$  ha),
- large ( $30 \leq 50$  ha).

The horticultural (2) types of farms, wine (3), other permanent crops (4), areas up to 5 ha and over 50 ha were excluded from the research because of their small number.

**Research results.** Table 1 presents the farmers' opinions concerning the type of circulating property which dominates their entities. In all area-based groups the owners give money resources as the main element of their circulating property. With the increase of area of the farms it was the main answer, 100 % as in the case with large entities. It can be said that with the increase of area there is an increase of their financial security. The crucial element of circulating property is the store of products which constitute the second position in the circulating assets' structure. In case of small farms, 34 % of the owners admit that the main circulating assets are finished products stock which has outlet on the market. However, with the increase of farms' area such answer is not common. The interviewees in large entities do not give such answer. The farmers rarely give liabilities as a main part of circulating property. The majority of respondents, 14 %, give such answer in medium-large entities.

Table 1

**The elements of circulating property prevailing in an agricultural entity**

Content	The rate of farmers' opinions depending on (%):								Average
	UR area (ha)				agricultural type				
	5-10	10-20	20-30	30-50	1	5,6	7	8	
a) financialmeans	59	61	86	100	89	83	50	58	73
b) liabilities	3	0	14	0	22	0	0	0	5
c) finished products stock with marketing outlet	34	17	14	0	22	17	38	24	21
d) finished products stock without marketing outlet	0	0	14	0	0	0	0	3	2
e) store of goods	38	43	29	50	22	0	25	53	32
f) store of materials	3	9	0	0	0	33	0	3	6

Source: own study.

In the particular farm types, similarly to the situation of the area division, the majority of farm owners admit an advantage of money resources over other assets elements. The highest rate of this answer is in “field crops” (89 %) and the lowest in the type of “granivores” (50 %). It is the most common answer among the owners of farms specializing in granivorous. In comparison with other groups they say that there is finished products stock with the market outlet (38 %) and without the outlet (38 %). 25 % of the farmers in this group say that the main element of circulating property is the stock of products. However, the majority of this answer can be noticed in case of mixed type of agriculture (53 %). In case of entities specializing in animals fed in grazing system, 33 % of the respondents say that the store of materials constitutes the main part of their entities. Comparing with other types of farms it is the highest answer rate.

As mentioned in the farms stocks level remained relatively high which affects the level of financial liquidity. Studies indicate that farms liquidity ratios was higher than the current optimum literature. This was due mainly to have a higher level of stocks<sup>1</sup>. Analyzing the financial situation of farms engaged in agricultural accountancy in 2000 found that about 73 % of households are characterized by excess financial liquidity. This may result to a reduction in the profitability<sup>2</sup>. Consequently asked the owners of farms on the causes of the excess financial liquidity. Surplus stock of excess liquidity as the reason most frequently cited the owners of farms medium small and medium-large (52 % of responses) (fig. 1). The least frequent answer the pointed farmers with large farms (50 % of responses).

The situation was similar in the case of farms grouped according to the criterion of the type of farming, which is presented in fig. 2. Surplus stocks as a cause of excess liquidity was most often indicated by the owners of the type of agricultural “field crops” (78 % of responses) and “mixed”(55 % of responses), while the least frequently by farmers specializing in animal production (35–50 % of responses).

Table 2 presents the ways of stock management on farms in the Lublin province. In all groups the farms’ owners say that they keep optimum stock level (66 % of responses). The highest rate of this answer is noticed in case of small entities (79 % of responses) and the case of farms with the “field crops” type (89 % of responses). 50 % of farmers of large entities admit that they are trying to minimize means of production stock coming from purchases. However, in small and medium-small entities farmers maximize their own stock of agricultural products in order to run livestock production and ensure the continuity of productive processes. On average 19 % of the farmers point maximizing of their own products’ stock as a strategy of stock management on farms.

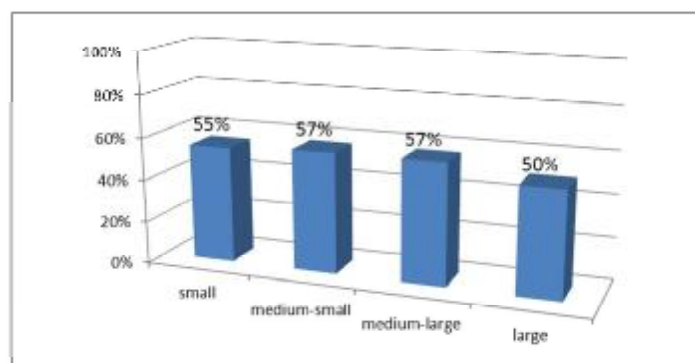


Fig. 1. Surplus stocks as the main cause of excess liquidity by UR area

Source: own study.

<sup>1</sup> M. Wasilewski, *Optimalizacja wyników ekonomiczno-finansowych w gospodarstwach indywidualnych (Optimization of economic and financial results in individual farms)*, Zagadnienia Ekonomiki Rolnej, nr 4, 2004; A. Gałęcka, *Płynność finansowa a sytuacja ekonomiczna gospodarstw rolniczych z województwa lubelskiego- streszczenie rozprawy doktorskiej (Financial liquidity and economic situation of agricultural farms In Lublin Province- summary of doctor al dissertation)*, Studia Ekonomiczne i Regionalne (Economic and Regional Studies), Wydawnictwo Państwowej Szkoły Wyższej im. Papieża Jana Pawła II w Białej Podlaskiej, Biała Podlaska 2013.

<sup>2</sup> J. Kisielińska, *Wykorzystanie metod wielowymiarowej analizy do oceny sytuacji finansowej gospodarstw rolniczych (The use of multivariate analysis methods to assess the financial situation of farms)*, Wieś i Rolnictwo, nr 4(121), 2003.

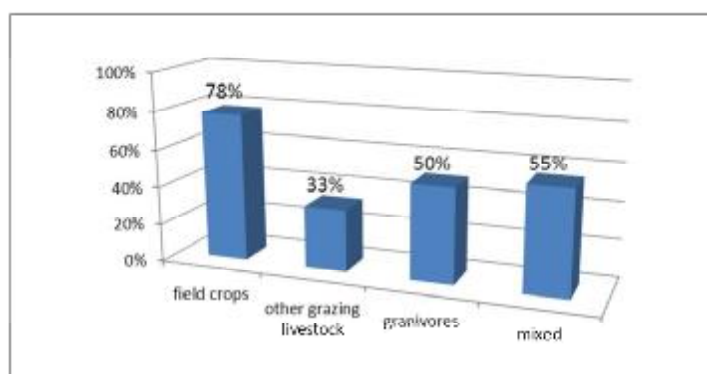


Fig. 2. Surplus stocks as the main cause of excess liquidity by type of farming

Source: own study.

In the entities of “field crops” type of agriculture, 22 % of farmers admit that minimizing the stock of assets coming from purchases constitutes the main way of their stock management. However, in specialized entities the farms’ owners say that in order to run livestock production, the stock of their own agricultural products is kept on the highest level. The most number of such responses could be noticed among farmers specializing in the animals fed in grazing system (50 %).

Table 2

#### The strategies of stock management on farms

Content	The rate of farmers’ opinions depending on (%)								Average
	UR area (ha)				agricultural type				
	5-10	10-20	20-30	30-50	1	5,6	7	8	
a) stock increases	3	4	0	0	0	0	0	5	2
b) stock decreases	0	0	14	0	0	0	0	3	2
c) minimizing the stock of means of production from purchase	14	9	14	50	22	0	0	16	16
d) maximizing the stock of personal agricultural products in order to run livestock production	14	39	0	0	0	50	25	21	19
e) maintaining the optimum stock level	79	52	71	50	89	50	75	63	66

Source: own study.

The majority of the owners of agricultural entities in the Lublin province are planning to keep the size of their stock on the same level which means that they classify it as appropriate (on average 64 % of responses) (table 3). It is the most common response in case of all study groups. All of the farmers of large entities (30–50 ha) admit the same, without any divergences.

The increase of the stock level of individual agricultural products is planned mostly by the owners of small farms (24 % of responses). However, the decrease was admitted by 29 % of farmers running entities of the area of 20–30 ha, which constitutes the most number of responses. It is also planned by the owners of entities of “field crops” type (22 %). The farmers have too many assets of this type. None of the farmers is planning to increase the stock level of production from purchase. In the entities included in the study there are plans of future decrease of this type of stock (on average 13 % of responses). The plans are the most common among farmers specializing in the animals fed in grazing system (33 % of responses). The maintenance of this type of stock on the same level the most rarely admitted, with only 50 % of responses. The maintenance of stock on the past level is admitted by the owners of mixed farms – 68 % of responses.

The increase of the stock level of individual agricultural products is planned by 38 % of the farmers specializing in the inbreeding of granivorous animals, which can be noticed in the highest number of responses. However, the increase of stock size of individual agricultural products is admitted by the owners of farms specializing in the inbreeding of “granivores” (88% of responses) and of the area of 5–10 ha (24 % of responses).

Table 3

**The farmers’ plans concerning stock management**

Content	The rate of farmers' opinions depending on (%)								Average
	UR area (ha)				agricultural type				
	5-10	10-20	20-30	30-50	1	5,6	7	8	
a) the increase of individual stock level agricultural products	24	17	0	0	22	0	88	16	21
b) the decrease of the individual stock level of agricultural products	7	17	29	0	22	17	0	13	13
c) the decrease of the stock level of production means from purchase	3	13	0	0	0	33	0	5	7
d) the maintenance of the stock on the same level	66	57	71	100	56	50	63	68	66

Source: own study.

**Conclusions.** The study based on the farmers’ opinions presents the ways of stock management in agricultural entities in the Lublin province. On the basis of the research a number of conclusions have been formulated:

1. The main element of circulating property in agricultural entities in the Lublin province are money resources and the store of goods and finished products with the market outlet.

2. The highest stock level is admitted by the farmers running the entities of the area of 30-50ha UR and of the mixed type of agriculture. It has been stated that the stock of finished products with the market outlet is the most common in case of farms specializing in the inbreeding of granivorous animals. It results from the fact that the livestock production is characterized by permanent cycles of production.

3. The owners of agricultural entities have given the maintenance of optimum stock level as a strategy of management (66% of responses). It is a positive tendency which reflects the rational stock management in the agricultural entities in the Lublin province. It has been most often admitted by the owners of “field crops” type of farms and farms of the area of 5-10 ha AL.

4. The farmers specializing in livestock production have often given the maximizing of individual stock of agricultural products as characteristic to their strategy of stock management. It has been mostly common in case of small (5-10ha UR) and medium-small farms (10-20 ha UR).

5. The owners of agricultural entities in the Lublin province most often plan the stock maintenance on the same level. It has been proven that they consider the past management politics of the assets as appropriate and do not need to change it. The improvement of the stock level in agricultural entities has been given to be continued in the future.

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