

UDC 339.5.012.23: 339.5.018.2

Cimpoies Liliana, Ph. D, associate professor, Academy of Economic Studies, Moldova
Vavdiuk Nataliia, doctor of economy, professor, Lutsk National Technical University,
Ukraine

Sarbu Olga, Ph. D, associate professor, State Agrarian University, Moldova

ASSESSING AGRI-FOOD TRADE ADVANTAGES WITH EU: A COMPARATIVE CASE STUDY OF MOLDOVA AND UKRAINE

Competitiveness is the key to export development and country's position on global markets. The aim of this paper is to estimate Moldova's and Ukraine agri-food products competitiveness on EU market, taking the foreign trade as major indicator. The research is based on secondary data from International Trade Centre (ITC) and focuses on Moldova and Ukraine agri-food trade commodities changes in structure and its distribution in territorial aspect. The analyzed time series belong to 2009-2015. According to the obtained results, both countries register comparative advantages for many agri-food products. Moldova has advantages on seven agri-food products, while Ukraine register comparative trade advantages on over half of its agricultural and food commodities. Trade disadvantages are observed for twelve agri-food commodities in case of Moldova, and only three for Ukraine.

Key words: competitive advantages, comparative advantages, agricultural products.

Чимпоеш Ліліана, Вавдюк Наталія, Сарбу Ольга

ОЦІНКА ПЕРЕВАГ ТОРГІВЛІ СІЛЬСЬКОГОСПОДАРСЬКОЮ ПРОДУКЦІЄЮ З КРАЇНАМИ ЄС: ПОРІВНЯЛЬНИЙ АНАЛІЗ МОЛДОВИ ТА УКРАЇНИ

Процес трансформації до ринкової економіки включав багато змін для країн Європи, зокрема змін, пов'язаних із середовищем торгівлі сільським господарством та продовольством. Ці перетворення були частиною процесу лібералізації торгівлі в країнах. Більшість країн мали однаковий підґрунтя, але різний потенціал, тому процес лібералізації та трансформації торгівлі передбачав різний інтеграційний досвід.

Конкурентоспроможність продукції є важливим фактором зростання обсягів експорту та позиції конкурентоспроможності країни на світових ринках. Метою даного дослідження є оцінка конкурентоспроможності сільськогосподарської продукції Молдови та України на ринках ЄС, що є основним показником зовнішньої торгівлі. Дослідження базується на вторинних даних Міжнародного торгового центру та зосереджене на оцінці та аналізі змін структури обсягів експорту сільськогосподарської продукції та конкурентних переваг в сільському господарстві Молдови та України протягом 2009-2015 років.

Торгівля сільськогосподарською продукцією відіграє важливу роль як в економіці Молдови, так і в Україні. Сільськогосподарський сектор має велику питому вагу в структурі торгівельного балансу, оскільки сільськогосподарські продукти переважають і у загальному обсязі експорту. Обидві країни зазнали змін у загальному обсязі торгівельних та сільськогосподарських товарів у досліджуваних часових рядах. Що стосується експорту сільськогосподарської продукції, то спостерігається тенденція, яка спрямована на країни ЄС, для обох країн, зокрема для Молдови. Український експорт сільськогосподарської продукції до країн ЄС збільшився вдвічі протягом аналізованих часових рядів.

Згідно з отриманими результатами, країни володіють порівняльними перевагами: Молдова володіє порівняльними перевагами на семи агропродовольчих товарах, в той час як Україна має порівняльні торгові переваги більш ніж на половині сільськогосподарських та продовольчих товарів. Так, Молдова має переваги у семи сільськогосподарських та харчових продуктах: їстівні фрукти та горіхи; злаки; олійні насіння та олійні фрукти; рослинні плетені матеріали; тваринні чи рослинні жири та масла; цукор та цукристі кондитерські вироби; препарати овочів, фруктів, горіхів; напої, спирт і оцет. Україна має порівняльні торгові переваги більш ніж на половині своїх сільськогосподарських та продовольчих товарів: м'ясо; молочна продукція; продукти тваринного походження; їстівні овочі; їстівні фрукти та горіхи; злаки; продукти фрезерної промисловості; олійні насіння та олійні фрукти; рослинні плетені матеріали; тваринні чи рослинні жири та масла; цукор; какао; препарати з зернових культур; препарати овочів, фруктів, горіхів; залишки та відходи харчової промисловості. Недоліки у торгівлі спостерігаються у дванадцяти агропродовольчих товарах у випадку Молдови та лише у трьох для України.

Ключові слова: конкурентні переваги, порівняльні переваги, сільськогосподарська продукція.

Чимпоеш Лилиана, Вавдюк Наталия, Сарбу Ольга

ОЦЕНКА ПРЕИМУЩЕСТВ ТОРГОВЛИ СЕЛЬСКОХОЗЯЙСТВЕННОЙ ПРОДУКЦИЕЙ СО СТРАНАМИ ЕС: СРАВНИТЕЛЬНЫЙ АНАЛИЗ МОЛДОВЫ И УКРАИНЫ

Конкуренентоспособность продукции является важным фактором роста объемов экспорта и позиции конкурентоспособности страны на мировых рынках. Целью данного исследования является оценка конкурентоспособности сельскохозяйственной продукции Молдовы и Украины на рынках ЕС, является основным показателем внешней торговли. Исследование базируется на вторичных данных Международного торгового центра и сосредоточено на оценке и анализе изменений структуры объемов экспорта сельскохозяйственной продукции и конкурентных преимуществ в сельском хозяйстве Молдовы и Украины в течение 2009-2015 годов. Согласно полученным результатам, страны обладают сравнительными преимуществами. Молдова обладает сравнительными преимуществами на семи агропродовольственных товарам, в то время как Украина имеет сравнительные торговые преимущества более чем на половине сельскохозяйственных и продовольственных товаров. Недостатки во внешнеэкономической торговле со странами ЕС наблюдаются в двенадцати агропродовольственных товарам Молдовы и только в трех товарах для Украины.

Ключевые слова: конкурентные преимущества, сравнительные преимущества, сельскохозяйственная продукция.

The problem is presented in general terms and its connection with important scientific and practical tasks. The transformation process to market economy included many changes for Easter European countries, particularly changes related to agricultural and food trade environment. These transformations were part of countries trade liberalization process. Most countries had similar background but different potential, thus the process of trade liberalization and transformation implied different integration experiences.

Analysis of the latest research in which the problem was initiated. The works of many scholars are devoted to the theoretical and methodological foundations of the formation of cocurent and comparative advantages. In their works, Bergschimdt 1998, Bonjec 2004&2007 analyze the level of integration in global economy for countries that passed through transition period.

The integration of these countries into the world trade flows took place due to joining the World Trade Organization (WTO), or signing various Free Trade Agreements (FTA) with EU (Bonjec, 2007). In papers of Bonjec, Fertio etc the level of competitiveness of one or another branch or country are established. Other works (Levkovich 2007; Luka 2004) examine how these results were achieved using the labor division advantages by sectors or countries, or as result of the transition process.

Other studies examines the competitive performance of EU countries, comparing food industry and agriculture, and analyzing the effects of the economic crisis on the competitiveness (Carraresi 2015, Banterole 2007). Also a particular attention is given to the changes in foreign agrarian trade after joining the EU. According to the investigations, there is a high dependence on the EU and dynamic growth of the agrarian export value (Smutka 2015, Svatos 2012).

Competitiveness has become a key issue on international markets since it can be considered as the major source of export development. A country that utilizes the best its resources within its agricultural sector may benefit from comparative advantage on international agricultural markets (Yercan 2006).

Recently, both Moldova and Ukraine are approaching the EU market. Both countries signed the Deep and Comprehensive Free Trade Agreement (DCFTA) with European Union.

Thus, it is important for the agri-food products to be competitive on the EU market and to assess the potential gains of the increased demand.

Article targets. The aim of this paper is to estimate Moldova's and Ukraine agri-food products competitiveness on EU market, taking the foreign trade as major indicator. This research focuses on the assessment of relative trade advantages by using the RTA index. Also, the trends and changes in agri-food commodities structure and the geographical aspect are analyzed.

Presentation of the main research material with full justification of the received scientific results. For the appreciation of the country's comparative advantage (or a particular sector) Bela Balassa (1965) elaborated the method that reveals the "Revealed Comparative advantages" (RCA). This method is based on the assumption that the implicit comparative advantages find their reflection directly in the trade flows. According to Balassa, comparative advantages are manifested in relatively high shares of a particular product/sector in the structure of exports. In the same time the relative limitations are reflected through low shares of a product/sector.

The RCA index or Balassa index is an indicator that characterizes the ratio of a commodity i in the total amount of country's exports and the share of this commodity in the total amount of world's exports. This index is based on observed trade patterns. This index is defined as:

$$B = (X_{ij}/X_{it})/(X_{nj}/X_{nt}), \quad (1)$$

where, X – export; i – a country; j – a commodity; t – a set of commodities; n – a set of countries.

If $B > 1$, then a comparative advantage is revealed. The standard deviation of this index across products can be used as measure of the comparative importance of inter-industry specialization or intra-industry trade.

An alternative specialization of revealed comparative advantage was developed by Vollrath (1991) and was called Relative Trade Advantage (RTA). The RTA index is calculated as the difference between relative export advantage (RXA) or Balassa index and relative import advantage (RMA):

$$RTA = RXA - RMA, \quad (2)$$

where, $RXA = B = (X_{ij}/X_{it})/(X_{nj}/X_{nt})$;

$RMA = (M_{ij}/M_{it})/(M_{nj}/M_{nt})$;

M – import.

The positive value of the RTA index indicates comparative trade advantages, while negative values reveals comparative trade disadvantages. When RTA is greater than zero, then a comparative advantage is revealed, which means that a sector of the country is relatively more competitive in terms of trade.

Nevertheless, RCA and derived indicators are distorted by government intervention, and often reflect price distortions rather than real competitiveness (Latruffe 2010).

The paper is based on secondary data from International Trade Centre (ITC). The research focuses on Moldova and Ukraine agri-food trade commodities changes in structure and its distribution in territorial aspect. The analyzed time series belong to 2009-2015. The structure of agri-food commodities is analyzed based on the international nomenclature for the classification of products Harmonized Sections (HS) 2012 in two digits (24 chapters which belong to agri-food products).

Agri-food trade plays an important role in both Moldova and Ukraine economy. This is due to the large share in GDP, is a major employer as a large number of population is employed in agriculture and food processing industry. Moreover, the agri-food sector has an important contribution in trade balance as the agri-food products have a high share in overall exports (Table 1,2).

Table 1

Dynamics of Moldova's trade flows (2009-2016)

	2009	2010	2011	2012	2013	2014	2015	2016
Exports	1282981	1541487	2216815	2161879	2428303	2339530	1966837	2044611
Imports	3278270	3855289	5191271	5212928	5492393	5316959	3986821	4020359
Trade balance	-1995289	-2313802	-2974456	-3051049	-3064090	-2977429	-2019984	-1975748
Agri-food exports	604746	732211	917102	878883	1015545	1065349	914488	945477
Agri-food imports	513582	591523	687783	743339	783796	719326	586576	608049
Agri-food trade balance	91164	140688	229319	135544	231749	346023	327912	337428

Source: based on ITC data

Table 2

Dynamics of Ukraine's trade flows (2009-2015)

	2009	2010	2011	2012	2013	2014	2015
Exports	39695648	51430286	68393034	68694495	63320469	53913302	38127040
Imports	45412944	60737135	82607537	84656667	76986013	54381409	37516153
Trade balance	-5717296	-9306849	-14214503	-15962172	-13665544	-468107	610887
Agri-food exports	9514845	9936063	12804179	17810775	17038631	16671100	14563042
Agri-food imports	4935866	5761687	6346322	7519106	8187030	6051906	3484181
Agri-food trade balance	4578979	4174376	6457857	10291669	8851601	10619194	11078861

Source: based on ITC data

Analyzing the dynamics of Ukraine and Moldova's trade flows, an increasing tendency is observed. This increasing trend is both for exports and imports flows. However, while Moldova still maintains a negative trade balance, mainly due to high imports of energy and gas resources, Ukraine achieved in 2015 a positive trade balance. Nevertheless, Moldova's trade deficit had decreased over the time series examined. This positive trend was achieved for both countries with a large contribution from the increase in agri-food trade. The agri-food trade balance is positive for both countries. During the examined time series the agri-food exports increased by 8 times for both Moldova and Ukraine. Imports of agricultural and food products increased but less for Moldova by 3 times and decreased twice for Ukraine (Table 1, 2).

Geographical distribution of agri-food trade also experienced various changes for both countries. The trade flows with EU countries had increased. For Ukraine particularly increased the agri-food imports to EU and other countries (Figure 1b). It is obvious an increasing trend until 2013, then a slow decrease. Overall, the agri-food imports of Ukraine decreased from EU with 17%, from CIS with 38% and by 30% from other countries. Regarding Moldavian agri-food imports, can be mentioned that it basically remained unchanged in relation to other countries. Nevertheless, Moldavian agri-food imports increased considerable from EU countries from 154896 thousands USD dollars in 2009 to 249851 thousands USD dollars in 2016. In relation to CIS countries, agri-food imports increased until 2013, and later decreased. In general, the agri-food imports from CIS in 2016 were of 248362 thousands USD dollars, with 5% less than its level in 2009.

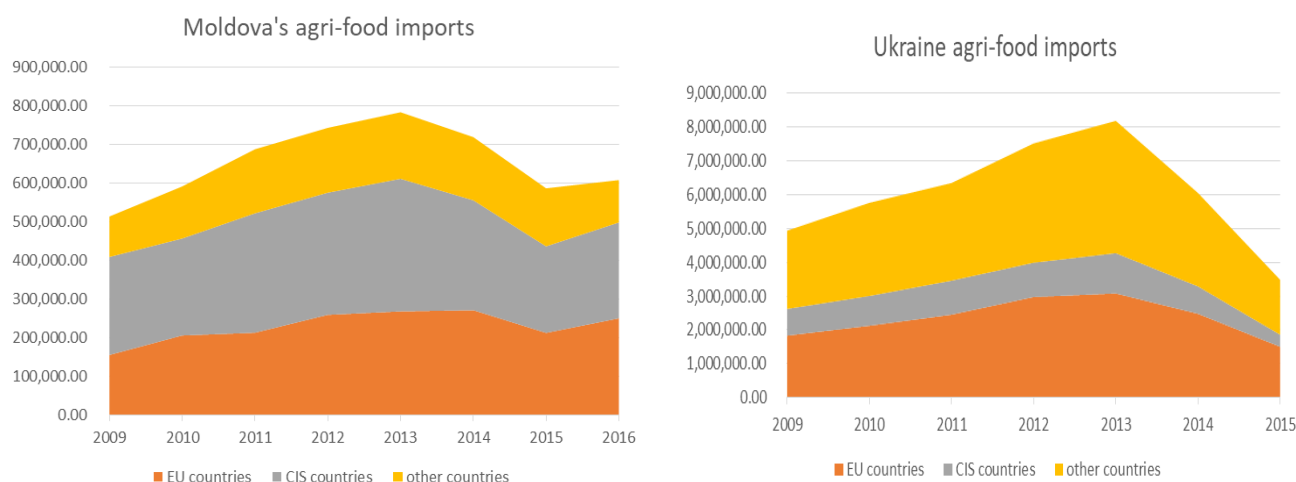


Figure 1. Geographic distribution of agri-food imports

Related to agri-food exports an particularly increasing trend directed to EU countries is observed. While it is considerable noticed for both countries, in the case of Moldova is more accentuated. This could be due to the fact that Moldova signed earlier the DCFTA with EU in 2014. Ukrainian agri-food exports to EU increased twice, from 2089543 in 2009 to 4052147 thousands USD in 2015.

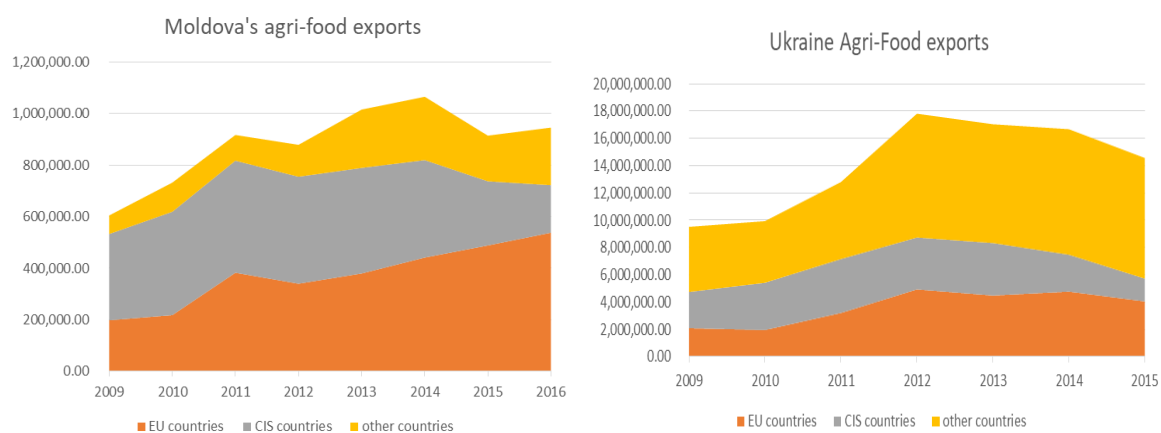


Figure 2. Geographical distribution of agri-food exports

Moldavian agri-food exports oriented to EU market increased by almost three times comparing its previous level. It accounted 537853 thousands USD dollars in 2016. A similar increase is viewed towards other countries. Nevertheless, the agri-food exports to CIS countries decreased by 50% and accounted 184335 thousands USD dollars.

For Ukraine the agri-food exports to other countries increased significantly. It almost doubled from 4472448 thousands USD dollars in 2009 to 88841454 thousands USD dollars in 2015. The exports to CIS countries decreased proportionally with imports from 2652854 thousands USD dollars in 2009 to 1666941 thousands USD dollars in 2015.

Agri-food products competitiveness on EU market was assessed based on the Relative Trade Advantages index results, for both Moldova and Ukraine. The products were classified in Table

3 based on the obtained values. Thus we can delimitate three different trends in the competitiveness of agri-food products.

Table 3

Competitiveness of Moldova's and Ukraine agri-food products with EU, based on RTA index results

RTA results		
RTA > 0	RTA < 0	RTA switching values
Moldova		
Edible fruit and nuts; cereals; Oil seeds and oleaginous fruits; Vegetable plaiting materials; Animal or vegetable fats and oils; Sugars and sugar confectionery; Preparations of vegetables, fruit, nuts; Beverages, spirits and vinegar;	Live animals; fish; products of animal origin; live trees and other plants; Coffee, tea, maté and spices; Products of the milling industry; Lac; gums, resins; Preparations of meat; Cocoa and cocoa preparations; Preparations of cereals; Miscellaneous edible preparations; Tobacco	Meat; dairy produce; edible vegetables; Residues and waste from the food industries; prepared animal fodder;
Ukraine		
Meat; Dairy produce; Products of animal origin; Edible vegetables; Edible fruit and nuts; Cereals; Products of the milling industry; Oil seeds and oleaginous fruits; Vegetable plaiting materials; Animal or vegetable fats and oils; Sugars; Cocoa; Preparations of cereals; Preparations of vegetables, fruit, nuts; Residues and waste from the food industries;	Live animals; Live trees and other plants; Lac; gums, resins;	Fish; Coffee, tea, maté and spices; Preparations of meat; Miscellaneous edible preparations; Beverages, spirits and vinegar;

Source: based on own calculations

According to the obtained results, both countries register comparative advantages for many agri-food products. Moldova has advantages on seven agricultural and food products products as: edible fruit and nuts; cereals; oil seeds and oleaginous fruits; vegetable plaiting materials; animal or vegetable fats and oils; sugars and sugar confectionery; preparations of vegetables, fruit, nuts; beverages, spirits and vinegar.

Ukraine register comparative trade advantages on over half of its agricultural and food commodities. Among these are: meat; dairy produce; products of animal origin; edible vegetables; edible fruit and nuts; cereals; products of the milling industry; oil seeds and oleaginous fruits; vegetable plaiting materials; animal or vegetable fats and oils; sugars; cocoa; preparations of cereals; preparations of vegetables, fruit, nuts; residues and waste from the food industries. Trade disadvantages are observed for 12 agri-food commodities in case of Moldova, and only three for Ukraine.

In the same time, both countries have some commodities that register switching values for the RTA results. Those commodities register in some years positive values and in others negative. Thus, they are classified under a special category, as its advantages could be improved and a higher competitiveness could be achieved for these agri-food commodities.

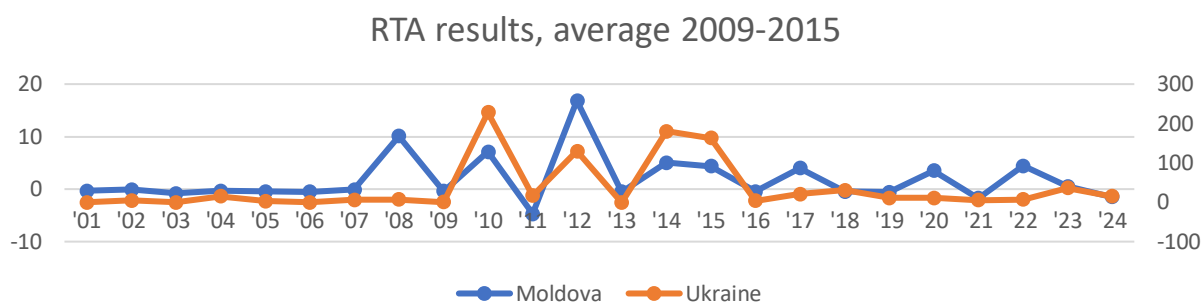


Figure 3. Relative Trade advantages results on average, 2009-2015

Source: own calculations

In general, the RTA values present quite high fluctuations over time. This trend is similar for both countries (Figure 3). On average, trade advantages are observed for only few commodities. For Moldova these are: edible fruits and nuts, cereals, oil seeds and oleaginous fruits, vegetable planting material, animal or vegetable fats and oil, sugar, preparations of vegetable fruits or nuts and beverages. For Ukraine, cereals, oil seeds and oleaginous fruits, vegetable planting material, animal or vegetable fats and oil on average register comparative advantages on EU market.

Conclusions. Agri-food trade plays an important role in both Moldova and Ukraine economy. The agri-food sector has an important contribution in trade balance as the agri-food products have a high share in overall exports. Both countries experienced changes in the overall trade and agri-food trade flows during the investigated time series. Related to agri-food exports an particularly increasing trend directed to EU countries is observed for both countries, particularly for Moldova. Ukrainian agri-food exports to EU countries increased twice during the referred time series.

According to the obtained results, both countries register comparative advantages for many agri-food products. Moldova has advantages on seven agricultural and food products products as: edible fruit and nuts; cereals; oil seeds and oleaginous fruits; vegetable plaiting materials; animal or vegetable fats and oils; sugars and sugar confectionery; preparations of vegetables, fruit, nuts; beverages, spirits and vinegar.

Ukraine register comparative trade advantages on over half of its agricultural and food commodities as: meat; dairy produce; products of animal origin; edible vegetables; edible fruit and nuts; cereals; products of the milling industry; oil seeds and oleaginous fruits; vegetable plaiting materials; animal or vegetable fats and oils; sugars; cocoa; preparations of cereals; preparations of vegetables, fruit, nuts; residues and waste from the food industries. Trade disadvantages are observed for twelve agri-food commodities in case of Moldova, and only three for Ukraine.

References:

1. Balassa B. (1965). Trade Liberalization and Revealed Comparative Advantage. *The Manchester School of Comparative Advantage*, 33(2), 99-123.
2. Banterle, A., Carraresi L. (2007). Competitive performance analysis and European Union trade: The case of the prepared swine meat sector. *Food Economics* 4(3), 159-172.
3. Bergschmidt, A., Hartmann, M. (1998). Agricultural Trade Policies and Trade relations in transition economies, Discussion Paper 12, Institute of Agricultural Development in Central and Eastern Europe (IAMO). Halle (Saale).
4. Bonjec S., Hartmann, M. (2004). Agricultural and Food Trade in Central and Eastern Europe: The Case of Slovenian Intra-Industry Trade and Induced Structural Adjustment Costs. IAMO Discussion Paper 65, Institute of Agricultural Development in Central and Eastern Europe (IAMO). Halle (Saale).
5. Bonjec S., Ferto I. (2007). Comparative advantages in agro-food trade of Hungary, Croatia and Slovenia with the European Union. Discussion paper 106, Institute of Agricultural Development in Central and Eastern Europe (IAMO). Halle (Saale).

6. Carraresi L., Banterle A. (2015). Agri-food Competitive Performance in EU countries: a Fifteen Year Retrospective. *International Food and Agribusiness Management Review* 18(2), 37-62
7. Latruffe, L. (2010): Competitiveness, Productivity and Efficiency in the Agricultural and Agri-Food Sectors. *OECD Food, Agriculture and Fisheries Papers*, No. 30, OECD Publishing, Paris.
8. Levkovich I., Hockmann H. (2007). Foreign Trade and Transition process in agri-food sector of Ukraine. Discussion paper 114, Institute of Agricultural Development in Central and Eastern Europe (IAMO). Halle (Saale).
9. Luka O., Levkovich I. (2004): Intra-industry trade in agricultural and food products: the case of Ukraine. Discussion paper 78, Institute of Agricultural Development in Central and Eastern Europe (IAMO). Halle (Saale).
10. Smutka L., Svatoš M., Tomšík K., Sergienko O.I. (2016). Foreign trade in agricultural products in the Czech Republic. *Agric. Econ.* – Czech, 62: 9-25.
11. Svatoš, M., Smutka, L. (2012). Comparative advantages of the Czech agrarian foreign trade in relation to the EU and third countries. *Acta univ. agric. et silvic. Mendel. Brun.*, LX, No. 4, 363–378.
12. Vollrath T.L. (1991): A theoretical evaluation of alternative trade intensity measures of revealed comparative advantage. *Weltwirtschaftliches Archiv*, 127(2), 265-280
13. Yercan M., Isikli E. (2006): International competitiveness of Turkish agriculture: a case for horticultural products. EAAE seminar "Marketing dynamics within the global trading system: new perspectives", Chania, Crete, Greece.

УДК 332.3: 631.11

Маркіна І.А., д.е.н., професор

Кобченко М.Ю., аспірант

Полтавська державна аграрна академія

ФОРМУВАННЯ ПОЛІТИКИ УПРАВЛІННЯ ЯКІСТЮ ҐРУНТІВ СИСТЕМИ АГРАРНОГО ЗЕМЛЕКОРИСТУВАННЯ В КОНТЕКСТІ ГЛОБАЛЬНИХ ПРОБЛЕМ

В статті представлено дослідження проблем управління продуктивною якістю ґрунтів сільськогосподарського призначення в системі землекористування аграрних підприємств. Визначено головні проблеми управління земельними ресурсами, що призводять до втрати родючості ґрунтів в сучасній системі виробництва сільськогосподарських підприємств. Зазначено на доцільність реалізації в сільському господарстві України політики «подвійного виграшу» (win-win policy). Визначено перелік заходів, які можна віднести до політики «подвійного виграшу».

Ключові слова: землекористування, ґрунти, родючість, глобальні проблеми, кліматичні зміни, політика «подвійного виграшу», технології.

Markina I., Kobchenko M.

FORMATION OF THE POLICY OF QUALITY MANAGEMENT OF AGRICULTURAL LAND USE SYSTEM IN THE CONTEXT OF GLOBAL PROBLEMS

The study of problems of management of soil productive quality in agricultural land use system are presented in the article. The main problems of land use management, which lead to loss of soil fertility in the modern system of agricultural production are identified. Indicated the feasibility of implementation in agriculture of Ukraine the win-win policy. The list of activities that can be attributed to the win-win policy are presented.

Keywords: land use, soil, fertility, global problems, climate change, the win-win policy, technology.