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The Supply Shock in Organic Fertilizers for Agriculture Caused by the Effect of Russia-Ukraine War

Ermir Shahini^{1*}, Eugen Skuraj², Fatbardh Sallaku², Shpend Shahini²

¹Aleksandër Moisiu University of Durrës
2001, 14 Currila Str., Durres, Albania

²Agricultural University of Tirana
1025, Paisi Vodica Str., Tirana, Albania

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Abstract. Ukraine and Russia are among the leading global agricultural producers, accounting for millions of tons of global foodstuff and the production and exportation of organic fertilizers. With this in mind, the Russia-Ukraine war has caused an immense disruption and great supply shock in organic fertilizer and agricultural production, and food prices across the globe. The authors aimed to analyze the impact of the Russia-Ukraine war on agriculture, in particular organic fertilizers and agricultural production. The research employed a systematic research method to collect data on the extent of the impact of the war on organic fertilizers and food production. The research results indicate that the war has disrupted the supply of organic fertilizers, reducing agricultural products and subsequent rise in the price of agricultural produce. The research indicates that the rising cost of fertilizers directly influences food production and supply. The war has disrupted a viable environment for agricultural and organic production and exportation from these countries, causing the rise in food prices and a threat to food security across the globe. There is a need to ensure that international trade becomes more flexible and open in fertilizers and food production and exports. There is also a need to promote policy dialogues and market scrutiny, and transparency, especially with the uncertain global food market due to the disruptions influenced by the Russia-Ukraine war. The results of the study can be used by scientists, economists and public figures to build further forecasts of the state of agriculture, as well as to build strategies to improve the economy of some countries, including Ukraine

Keywords: supply chain shock, agricultural production, food prices, raw material, fertilizers export



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*Corresponding author

INTRODUCTION

The wake of the Russia-Ukraine War has intensified the supply shock of organic fertilizers for agricultural growth and food production. The war comes amid COVID-19, which has already ravaged the global economies of Ukraine and Russia included, thus causing a massive threat to global food security (Outlaw *et al.*, 2021). With Ukraine being the leading energy producer, the war has massively increased the gap in the supply chain of fertilizers and subsequent plants such as wheat and other grains that depend on fertilizers for growth. According to International Food Agency (IFA) (2022), the intensity and breadth of this supply shock of organic fertilizers due to the war are likely to have detrimental effects by increasing the inflationary pressures, thus leading to spikes in fertilizer and food prices. The supply shock of organic fertilizers, increment in agricultural production, and subsequent rise in food prices do not come as an intense shocker given the close relationship these elements have (Mbah and Wasum, 2022). According to Ibendahi (2022), food and fertilizer production require high energy content in terms of transport, industrialization, process and mechanization, and competition with other industries for raw materials.

Russia is a key producer of nitrogen fertilizer raw material, natural gas, which is mostly exported to the European Union members and India. The Russia-Ukraine war and, most especially, the sanctions imposed on Russia have led to the latter being cut off from the global market, thus limiting the production and exportation of these essential organic fertilizers. The Russia-Ukraine war exposes the global market to greater food risks due to inadequate raw materials and subsequent unmet import and export demand. The war has already caused an immense supply shock in the production and supply of this important commodity. This means that, as the cost of organic fertilizers continues to rise, the farmers are beginning to skip the use of nutrients resulting in low yields. Consequently, this will decrease the scarcity of food products, with the prices of foods projected to continue skyrocketing.

Ukraine and Russia export huge amounts of fertilizers and foodstuff. These countries largely control the food and fertilizer in the global market (Ali *et al.*, 2022). A number of studies of the economic and political consequences of the Russian-Ukrainian war were conducted. Thus, A. Ali *et al.* (2022) focused on the effects of war on the African economy, exploring the possibility of resource scarcity, rising energy and food prices for different countries. While considering theoretical scenarios of Russia's invasion of Ukraine, V. Astrov *et al.* (2022) analyzed their possible consequences, paying special attention to the issue of energy trade. I. Liadze *et al.* (2022) developed a global econometric model and used it to study changes in world GDP due to the conflict in Ukraine, in particular, created forecasts for European countries. They claim that since the war began, important raw materials for fertilizers such as ammonia, phosphates, nitrates and phosphates,

sulfates, and potash prices have gone up by 30% (Liadze *et al.*, 2022). The spike in these raw materials has hit a record high since the food and energy crisis experience during the 2007-2008 global financial crisis (Prices, 2022). Russia, which accounts for more than 12% of the global fertilizer production and export, has temporarily suspended its production and exportation, affecting the global agricultural food production and market as the effects can already be felt, especially with the hike in food prices across the globe (Outlaw *et al.*, 2021).

The scientific novelty of the article is that the authors consider the impact of the war on prices for organic fertilizers and agricultural production, given the events of the first months of the Russian-Ukrainian war. Research focuses on how the war affected organic fertilizers and further restrictions on crop production.

The purpose of this research is to analyze the impact of the Russia-Ukraine war on organic fertilizers and agricultural production and growth and the relationship between rising organic fertilizer production costs and agricultural production.

MATERIALS AND METHODS

The research utilized a systematic method for data collection, in which published data relevant to the study were extracted for analysis. Databases such as Google scholar and Agricultural and Food Policy Center (AFPC) were used. The inclusion criteria determined the use of published and original data below five years. Commentaries and abstracts were further excluded from the study. The search terms used included "Russia-Ukraine war", "organic fertilizers", "agriculture produce", and "supply shock".

During the systematic research, AFPC and Google Scholar databases were used. Data collected was analyzed using the Farm Economics and Solvency Projector (Farm ESP), developed by Dr. Henry Bryant (Outlaw *et al.*, 2021). The model is used to analyze the changes in farm produce concerning the change in the fertilizer prices. The inflation rates of fertilizers were recorded and evaluated for the 64 crop farms in Texas. The Farm ESP model of analysis assumed that all the fertilizers used in the farms were purchased in 2022 (Outlaw *et al.*, 2021). The inflation rates were analyzed based on the policies and prices of the Food and Agricultural Policy Research Institute (FAPRI). The model analyzed the changes in seed prices of organic fertilizers compared to the agricultural produce in Texas.

The study analyzed the prices of agricultural produce in Texas, including corn, sorghum, soybeans, oats, and wheat, from 2019 to 2022.

RESULTS AND DISCUSSION

The results indicate a sporadic increase in the prices of these products, as indicated in Table 1. The results also indicate a rising scale in the input prices for organic fertilizers such as Nitrogen, potash, and phosphate from

2020 to 2022, as indicated in Table 2. The inflation of organic fertilizers has increased sporadically. According to the FAPRI baseline, the nitrogen baseline has increased

from 9.94% and to a higher fertilizer scenario of 55.43% and 13.61% to 50.84% for potash and phosphate, as shown in Table 3.

Table 1. Updated crop prices

Crop prices	2019	2020	2021	2022
Corn (\$/bu)	3.56	4.40	4.43	5.67
Sorghum (\$/bu)	3.34	4.87	4.88	5.90
Soybeans (\$/bu)	8.34	5.87	10.34	12.90
Oats (\$/bu)	2.67	2.89	3.01	3.99
Wheat (\$/bu)	4.58	4.59	5.37	6.91

Source: *Outlaw et al., 2021*

Table 2. Change in organic fertilizer prices

Organic fertilizer input price	2020	2021	2022
Nitrogen (%)	-3.22	7.29	9.94
Potash (%)	-0.79	5.87	13.61
Phosphate (%)	-6.05	4.78	7.67

Source: *Outlaw et al., 2021*

Table 3. Change in organic fertilizer

Nutrient	FAPRI baseline 2021	Higher fertilizer scenario 2022
Nitrogen (%)	9.94	55.43
Potash and phosphate(%)	13.61	50.84

Source: *Outlaw et al., 2021*

From the results, the Russia-Ukraine war has developed a supply shock in fertilizer production and exportation throughout the global market. From the results, the war has led to increased organic fertilizers input prices. Nitrogen input price was - 3.22 and 7.29 in 2020 and 2021, but sporadically increased to 9.94 in 2022. Potash input price in 2020 and 2021 was at - 0.79 and 5.87, but rapidly increased in 2022 to 13.61. Moreover, phosphate fertilizer has followed the same trend from - 6.05 in 2020 to 7.67 in 2022. The FAPRI baseline shows that Nitrogen increased from 9.94% by six times the percentage to 55.43%, with the same trend visible in the potash and phosphate organic fertilizers. The increase in the organic fertilizer prices due to its inadequacy and supply shock due to the war has led to increasing food prices. As the leading exporters of maize and wheat and tons of these exports were sabotaged because of the war, crop prices have shot up sporadically. For example, from the results, corn, whose price was 3.56 \$/lb in 2019, has risen 5.67 in 2022. Wheat, whose selling price was 4.58 \$/bu, is now 6.91\$/bu.

The war has already caused an immense supply shock in the production and supply of this important commodity. This means that as the cost of organic fertilizers continues to rise, the farmers are beginning to skip the use of nutrients resulting in low yields. Consequently,

this will decrease the scarcity of food products, with the prices of foods projected to continue skyrocketing. The results further suggest a threat in the global supply of food products influenced by the supply and disruption of the supply chain in shipments of food products and organic fertilizers from Russia and Ukraine, given the ongoing war. The prices of food are projected to continue skyrocketing because farmers also have to make a profit despite the harsh production environment. According to A. Ali et al. (2022), the inadequate supplies for products, especially affordable food products, like barley and wheat, raise the potential risk of food shortages, especially in Africa, some Asian countries, and the Middle East.

To minimize the supply shock of organic fertilizers due to the ongoing war, international bodies, such as Food and Agricultural Organization, should ensure that the supply chain remains operational in all channels, including logistical systems, livestock protection, standing crops, and food processing infrastructure (Bakst et al., 2022). For global countries to remain resilient to the already felt supply shock in organic fertilizers and subsequent agricultural production, countries, especially those that heavily depend on exportations from Ukraine and Russia, should begin diversifying food production alternatives and sources. With the vulnerable groups and developing countries being hit the most due to the war, there is a

need to develop social protection interventions and close monitoring of alternative food sources and farm inputs (Husseini, 2022).

Economies around the globe are already dealing with the detrimental effects of COVID-19 which has severely affected the livelihood of people across the globe (Hosseini, 2022). With many economies at their feet and almost on the verge of collapse, the Russia-Ukraine war is not only another slap in the face but also increased a prolonged period of economic risks and survival. Given the market's vulnerability for oilseeds and grains, the world is staring at one of the most severe times of food price inflation in the contemporary world, given the importance of Russia and Ukraine's position in the market (Kalotay, 2022). Among the regions bound to be affected by the rising prices of organic fertilizers for agricultural plants and production in Latin America and India. According to Hussein (2022), Latin America is highly exposed to the risk of underproduction and complete sabotage of agricultural produce due to the spiking prices of potash and phosphates, which are critical in the production process (Bakeltis, 2022). To be more specific, Latin America is specialized in soybean production, which requires high levels and continuous availability of potash and phosphates (Deng *et al.*, 2022). Russia temporarily stopped production and exportation of these fertilizers, sanctions are imposed on Belarus, Ukraine is at its lowest level of

economic, political, and social stability due to the war. It all led to the soybean production facing uncertain times and possible compromise. It is also important to note that Belarus, Ukraine, and Russia make up to 45% of potash production and export, hence controlling the market for these essential organic fertilizers (Yousaf *et al.*, 2022).

Farmer relies on the application of essential organic fertilizers such as Nitrogen (K), potash (K), and phosphate (P) for increased growth and production (Kirilenko and Dronin, 2022). All these organic fertilizers can be accessed globally, with the main producers being Russia, Ukraine, and Belarus. Russia is a particularly major producer of Nitrogen and Potash, as shown in Figure 1. In addition, Russia is also a key producer of nitrogen fertilizer raw material, natural gas, which is mostly exported to the European Union members and India (Nevzorova, 2022). The Russia-Ukraine war and, most especially, the sanctions imposed on Russia have led to the latter being cut off from the global market, thus limiting the production and exportation of these essential organic fertilizers (Korovkin and Makarin, 2021). This phenomenon has increasingly created a supply shock and subsequent imbalance in the global supply and demand chain, thus limiting the production and exportation of Nitrogen and potash as this is being experienced and is much visible to the current market.

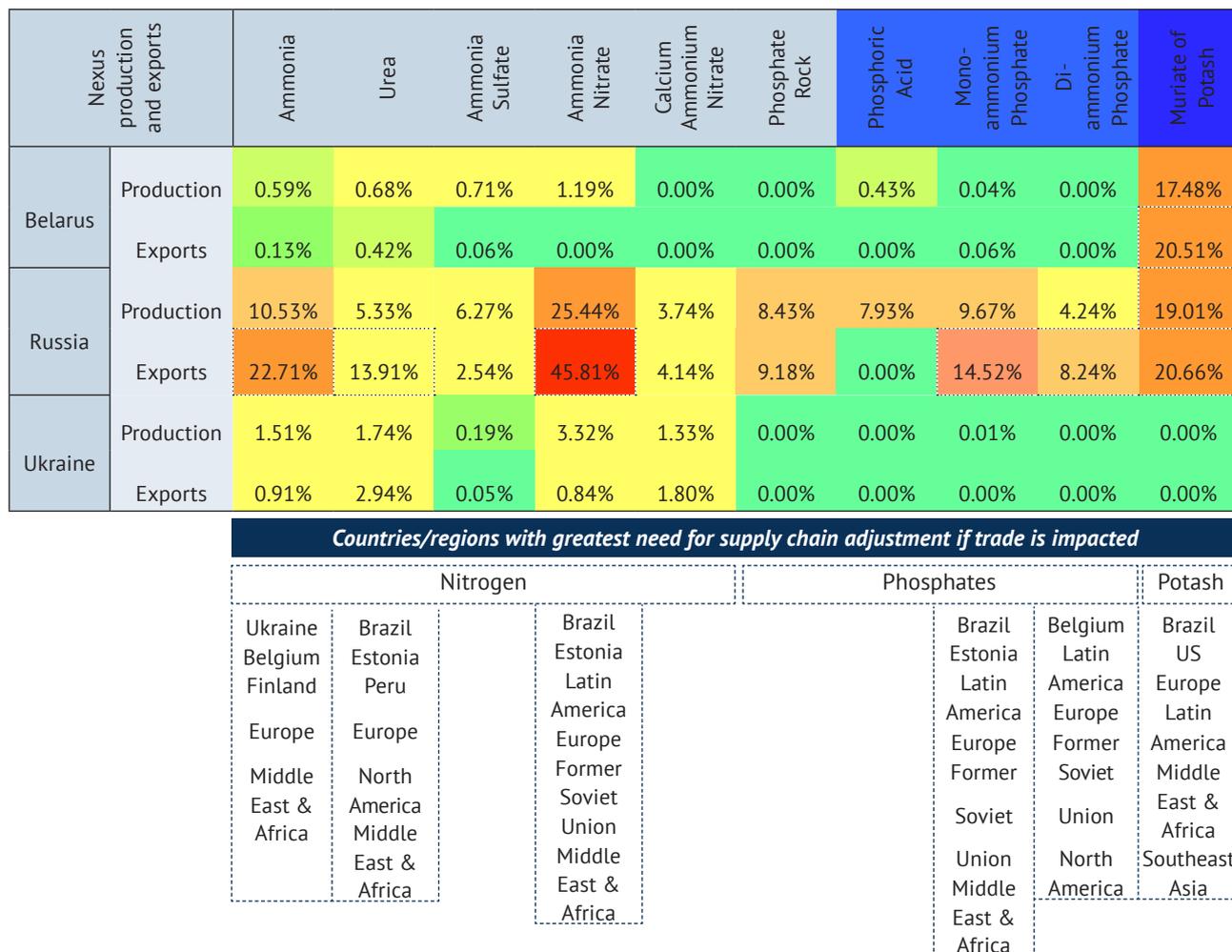


Figure 1. The vulnerability of the war on Ukraine, Russia, and Belarus on the global share of Nitrogen, potash, and phosphate production

Source: IFA (2022)

According to Ozil (2022) and Meena (2022), Nitrogen price has been on a sporadic rising scale since the war began, and this phenomenon can be explained using two factors and reasons. Firstly, potash (K) is supplied by three major countries which are Belarus, Ukraine, and Russia and sell to other importers, meaning that they have total control in determining and influencing the price of this fertilizer (Astrov *et al.*, 2022). Secondly, the sanctioning of Belarus due to the 2021 reports on the country suppressing and victimizing protest and now in support of Russia on its invasion of Ukraine has further impacted the supply and demand chain for these organic fertilizers, given that Belarus and Russia combined, control over 40% of the potash and nitrogen global exportations as shown in figure 1 (Paulson *et al.*, 2022; Hosseini, 2022).

To critically understand the severity of the Russia-Ukraine war, it is important to look at how the organic fertilizer rising prices will affect different countries. According to Nagarjuna (2022), the direct and severe impacts of the war on organic fertilizer have already been felt in India. India is at its peak of sowing for the next season to plant farm produce such as cotton, rice, and corn at the beginning of June. This process is likely to be sabotaged or delayed because all this production depends on Nitrogen, potash, and phosphate fertilizers whose prices have skyrocketed due to the war (McWilliams *et al.*, 2022). Brazil is also starring indirect sabotage of its soybean production, which depends on the potash and Nitrogen fertilizers produced and imported from Russia and Ukraine. Brazil imports over 40% of its potash and Nitrogen fertilizers from Belarus, Russia, and Ukraine (Dent and Boincean, 2021; Gutiérrez-Moya *et al.*, 2021). Latin America has also been impacted, especially in producing its large-scale wheat that depends on potash fertilizers from Russia and Ukraine.

The Russia-Ukraine war exposes the global market to greater food risks due to inadequate raw materials and subsequent unmet import and export demand (Oxford Analytica, 2022). Before the war began, Ukraine was scheduled to export more than 6 million tons of wheat across the global market, while Russia was estimated to export more than 8 million tons of wheat across the global market (Alyukov, 2021). According to the Food and Agriculture Organization (FAO) estimates, before the war began, Ukraine and Russia were expected to export more than 14 million tones and 2.5 tons of maize across the global market (Finance, 2022; Lang and McKee, 2022). All these exportations have been hugely hindered either partially or completely, especially from the Ukraine side more than Russia.

Given the uncertainty of the war in regards to the scale of destruction, damage, and the duration that the war will last, researchers have pointed out two essential scenarios that are likely to play out in regards to organic fertilizers and agricultural production in the

coming months and years (Zhongming and Wei, 2022). The majority of these researchers have made diverse scenarios assuming that the price of natural oil, which is the primary raw material for organic fertilizer, will continue rising. One of the real scenarios is that the rise in natural oil prices will subsequently increase the price of organic fertilizers for the next five years (Oxford Analytica, 2022). This scenario provides a complete projection from the one that has been previously given based on the COVID-19 recovery and growth rate for both countries. Before the war, the two countries had projected a rise in growth and development of the national gross domestic product (GDP) over the next five years, a projection which has failed due to the eruption and continuity of the war till now (Blinnikov, 2021).

According to E. Mammadov (2022), another scenario is that even though there would be alternative producers that will respond to the higher prices of organic fertilizers and agricultural products to replace Russia and Ukraine, there would still be a considerable supply gap in the global market (Hunt *et al.*, 2021). Additionally, even though most of both countries' cereals will be ready for harvesting from June, the uncertainty at the end of the war poses a huge risk in harvesting thus causing a huge threat to the global food security (Lun *et al.*, 2021). The war threatens the availability of labor and farmers to tend the crops in cultivating, sowing, harvesting, marketing, and selling the farm produce (Boincean and Dent, 2019).

CONCLUSIONS

The Russia-Ukraine War has escalated the supply shock to organic fertilizers for agricultural growth and food production across the global market. The research results indicate that the supply shock of organic fertilizers due to the war has negative impact due to increased inflationary pressures. It will lead to a sharp rise in prices for fertilizers and food. This is due to the fact that Ukraine and Russia are the leading producers of agricultural products worldwide. Additionally, Russia is the leading producer and exporter of natural gas, the primary raw material for manufacturing organic fertilizer.

With the war and many sanctions imposed on Russia, the production and exportations operations have been heavily affected by being disrupted or temporarily stopped. This means that Ukraine and Russia largely control the food and fertilizer in the global market, and therefore, the war has a direct impact on food production, hence the skyrocketing prices being experienced. Nitrogen, potash, and phosphate prices have been on a rising scale since the war began as these countries are the main producers and exporters of these fertilizers. The war has caused civil unrest, population displacement, and migration. There are great risks in cultivating and harvesting farm produce and uncertainty in marketing and sales.

REFERENCES

- [1] Ali, A.A., Azaroual, F., Bourhriba, O., & Dadush, U. (2022). The economic implications of the War in Ukraine for Africa and Morocco. *Policy Center for the New South*, 11/22, 1-8.
- [2] Alyukov, M. (2021). *Making sense of the news under an electoral authoritarian regime: Russian TV viewers and the Russia-Ukraine conflict*. Retrieved from <https://helda.helsinki.fi/handle/10138/328823>.

- [3] Astrov, V., Grieveson, R., Kochnev, A., Landesmann, M., & Pindyuk, O. (2022). Possible Russian invasion of Ukraine, scenarios for sanctions, and likely economic impact on Russia, Ukraine and the EU. *Policy*, 16, 52-59.
- [4] Bakst, D., Primorac, M., & Schaefer, B. (2022). *What the US should do now to minimize the risk of global food shortages*. Retrieved from <https://www.heritage.org/government-regulation/report/what-the-us-should-do-now-minimize-the-risk-global-food-shortages#:~:text=To%20address%20a%20broader%20crisis,effectiveness%20of%20U.S.%20food%20assistance>.
- [5] Blinnikov, M.S. (2021). *A geography of Russia and its Neighbors*. Guilford: Guilford Publications.
- [6] Boincean, B.P., & Dent, D.L. (2019). Farming the black earth. sustainable and climate-smart management of chernozem soil. *Spring Nature Switzerland AG*, 29, 98-106.
- [7] Deng, M., Leippold, M., Wagner, A.F., & Wang, Q. (2022). Stock prices and the Russia-Ukraine war: Sanctions, energy and ESG. *Swiss Finance Institute Research Paper*, 19, 22-29.
- [8] Dent, D., & Boincean, B. (2021). *An investable proposal for regenerative agriculture across the steppes*. Cham: Springer.
- [9] Finance, M. (2022). *Market snapshot*. Retrieved from <https://www.marketwatch.com/column/market-snapshot>.
- [10] Gutiérrez-Moya, E., Adenso-Díaz, B., & Lozano, S. (2021). Analysis and vulnerability of the international wheat trade network. *Food Security*, 13(1), 113-128.
- [11] Hosseini, S.E. (2022). Transition away from fossil fuels toward renewables: Lessons from Russia-Ukraine crisis. *Future Energy*, 1(1), 12-19.
- [12] Hunt, E., Femia, F., Werrell, C., Christian, J.I., Otkin, J.A., Basara, J., & McGaughey, K. (2021). Agricultural and food security impacts from the 2010 Russia flash drought. *Weather and Climate Extremes*, 34, article number 100383.
- [13] Ibendahi, G. (2022). The Russia-Ukraine conflict and the effect on fertilizer. Retrieved from <https://research.rabobank.com/far/en/sectors/farm-inputs/the-russia-ukraine-war-impact-on-global-fertilizer-markets.html#:~:text=Higher%20fertilizer%20prices%20and%20for,northern%20hemisphere%20is%20relatively%20quiet>.
- [14] IFA. (2022). Impact of the Russia/Ukraine conflict. Retrieved from <https://www.ifa.ie/campaigns/impact-of-the-russia-ukraine-conflict/>.
- [15] Kalotay, K. (2022). The war in Ukraine deals a blow to Russia's foreign direct investment links. Retrieved from https://www.researchgate.net/publication/359018530_The_war_in_Ukraine_deals_a_blow_to_Russia's_foreign_direct_investment_links.
- [16] Kirilenko, A., & Dronin, N. (2022). Recent grain production boom in Russia in historical context. *Climatic Change*, 171(3), 1-19.
- [17] Korovkin, V., & Makarin, A. (2021). *Conflict and inter-group trade: Evidence from the 2014 Russia-Ukraine crisis*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3397276.
- [18] Lang, T., & McKee, M. (2022). The reinvasion of Ukraine threatens global food supplies. Retrieved from <https://www.bmj.com/content/376/bmj.o676#:~:text=Reliable%20access%20to%20adequate%20nutrition,felt%20far%20beyond%20Ukraine's%20borders>.
- [19] Liadze, I., Macchiarelli, C., Mortimer-Lee, P., & Juanino, P.S. (2022). The economic costs of the Russia-Ukraine conflict. *NIESR Policy Paper*, 32, 61-72.
- [20] Lun, F., Sardans, J., Sun, D., Xiao, X., Liu, M., Li, Z., & Peñuelas, J. (2021). Influences of international agricultural trade on the global phosphorus cycle and its associated issues. *Global Environmental Change*, 69, article number 102282.
- [21] Mammadov, E. (2022). *The economic consequences of Russia-Ukraine war for Azerbaijan*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4058963.
- [22] Mbah, R.E., & Wasum, D.F. (2022). Russian-Ukraine 2022 war: A review of the economic impact of Russian-Ukraine crisis on the USA, UK, Canada, and Europe. *Advances in Social Sciences Research Journal*, 9(3), 37-46.
- [23] McWilliams, B., Sgaravatti, G., Tagliapietra, S., & Zachmann, G. (2022). Can Europe survive painlessly without Russian gas? *Bruegel-Blogs*, 9, 22-31.
- [24] Meena, K.L. (2022). Impact of Russia Ukraine war on Indian economy. *Academic Journal of Digital Economics and Stability*, 16, 54-62.
- [25] Nagarjuna, B. (2022). Russia's Invasion of Ukraine: Impact on Indian economy-strategies to mitigate and sustain. *EPRA International Journal of Multidisciplinary Research (IJMR)*, 8(3), 204-209.
- [26] Nevzorova, T. (2020). Biogas production in the Russian Federation: Current status, potential, and barriers. *Energies*, 13(14), article number 3620.
- [27] Outlaw, J.L., Fischer, B.L., Knapek, G.M., Herbst, B.K., Raulston, J.M., Bryant, H.L., Anderson, D.P., Klose, S.L., & Zimmel, P. (2021). Representative farms economic outlook for the January 2021 FAPRI/AFPC Base-line. In *Agricultural and Food Policy Center, Texas Aand M University, College Station, Texas*. Retrieved from <https://www.afpc.tamu.edu/research/publications/files/707/WP-21-01.pdf>.
- [28] Oxford Analytica. (2022). *Fertilizer and food prices could be high for years*. Retrieved from <https://www.emerald.com/insight/content/doi/10.1108/OXAN-DB268415/full/html>.

- [29] Ozil, P.K. (2022). *Global economic consequence of Russian invasion of Ukraine*. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4064770
- [30] Paulson, N., Janzen, J., Swanson, K., Schnitkey, G., Zulauf, C., & Series, G.P. (2022). Revisiting Ukraine, Russia, and agricultural commodity markets. Retrieved from <https://farmdocdaily.illinois.edu/2022/02/revisiting-ukraine-russia-and-agricultural-commodity-markets.html>.
- [31] Prices, G. (2022). By the Numbers. *Weather and Climate Extremes*, 35, article number 100399.
- [32] Yousaf, I., Patel, R., & Yarovaya, L. (2022). The reaction of G20+ stock markets to the Russia-Ukraine conflict. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4069555.
- [33] Zhongming, Z., & Wei, L. (2022). *Can Europe survive painlessly without Russiangas?* Retrieved from <https://www.ispionline.it/it/pubblicazione/can-eu-do-without-russian-gas-34122#:~:text=Global%20market%20conditions%20%E2%80%93%20high%20post,major%20shortages%20or%20emergency%20situations>.

Шок пропозиції органічних добрив для сільського господарства, що спричинені наслідками російсько-української війни

Ермір Шахіні¹, Євген Скурай², Фатбардх Саллаку², Шпенд Шахіні²

¹Університет Олександра Мойсіу в Дурресі
2001, вул. Rruga Currila, 14, м. Дуррес, Албанія

²Аграрний університет Тирана
1025, вул. Pasi Vodica, м. Тирана, Албанія

Анотація. Україна та Росія є одними з провідних світових виробників сільськогосподарської продукції, на них припадає мільйони тонн світових продуктів харчування, а також виробництво та експорт органічних добрив. З огляду на це, російсько-українська війна спричинила величезний зрив і великий шок у постачанні органічних добрив і сільськогосподарського виробництва, а також цін на продукти харчування по всьому світу. Метою авторів було проаналізувати вплив російсько-української війни на сільське господарство, зокрема на органічні добрива та сільськогосподарське виробництво. У дослідженні використовувався метод систематичного дослідження для збору даних про масштаби впливу війни на органічні добрива та виробництво харчових продуктів. Результати дослідження свідчать про те, що війна призвела до порушення поставок органічних добрив, скорочення сільськогосподарської продукції та подальшого зростання цін на сільськогосподарську продукцію. Дослідження показують, що зростання вартості добрив безпосередньо впливає на виробництво та постачання продуктів харчування. Війна порушила життєздатне середовище для сільськогосподарського та органічного виробництва та експорту з інших країн, спричинивши зростання цін на продукти харчування та загрозу продовольчій безпеці в усьому світі. Необхідно забезпечити, щоб міжнародна торгівля стала більш гнучкою та відкритою у сфері виробництва та експорту добрив, харчових продуктів. Існує також потреба сприяти політичному діалогу та ринковому контролю, а також прозорості, особливо в умовах невизначеності світового продовольчого ринку через зриви, спричинені російсько-українською війною. Результати дослідження можуть бути використані науковцями, економістами та громадськими діячами для побудови подальших прогнозів стану сільського господарства, а також для побудови стратегій покращення економіки деяких країн, зокрема України

Ключові слова: шок ланцюга поставок, сільськогосподарське виробництво, ціни на продукти харчування, сировина, експорт добрив
