Annals of Agri-bio Research
https://agribiop.com/

Review

Status and Perspectives of Organic Maize Production in Serbia

Jelena Golijan Pantović [1], Vera Popović [2], Viliana Vasileva [3,*], Snežana Dimitrijević [4], Marko Popović [5], Marija Gavrilović [6] and Ljubica Šarčević Todosijević [7]

[1] Faculty of Agriculture, University of Belgrade, Nemanjina 6, 11080 Belgrade, Serbia
[2] Institute of Field and Vegetable Crops, Maksima Gorkog 30, 21101 Novi Sad, Serbia
[3] Maize Research Institute, Agricultural Academy, 5835 Knezha, Bulgaria
[4] Institute for Vegetable Crops, 71 Karadordeva St., 11420 Smederevska Palanka, Serbia
[5] Faculty of Economics in Subotica, University of Novi Sad, Dr. Sime Milosevic 16, 21000 Novi Sad, Serbia
[6] Institute for Science Application in Agriculture, Bulevar despota Stefana 68, 11000 Belgrade, Serbia
[7] Visan Medical Sanitary School of Applied Sciences, Tošin bunar 7a, 11080 Belgrade, Serbia
* Correspondence: viliana.vasileva@gmail.com; Tel.: +359-886065461

How To Cite: Pantović, J. G., Popović, V., Vasileva, V., Dimitrijević, S., Popović, M., Gavrilović, M., & Todosijević, L. S. (2026). Status and Perspectives of Organic Maize Production in Serbia. *Annals of Agri-bio Research*, *31*(1), 1–9. https://doi.org/10.53941/agrbio.2026.100001

Received: 20 November 2025
Revised: 12 March 2026
Accepted: 20 March 2026
Published: 30 March 2026

Abstract: Maize (*Zea mays* L., *Poaceae* family) is the most domesticated plant species in the world. At the global level, the growing trend of expanding the area under organic plant production is evident. The use of genetically modified hybrids is prohibited in organic production. One of main prerequisites for the successful organic maize production is the use of hybrids that are well adapted to local conditions and tolerant of most abiotic and biotic stress factors. Among the most widely grown are NS 3014, NS 4015, NS 5043, NS 540, NS 6010, NS 6030, NS 640 and NS 7020, which belong to different FAO maturity groups and are well adapted to the agro-ecological conditions of the country. In Serbia, organic crop production takes place on an area of 25035.11 ha, while cereal production is in second place with an area of 3838.54 ha. Considering the importance of maize as a field crop and the place it occupies among types of cereals, the goal of this paper was to point out the importance and state of certified organic maize production. Among all grain types, wheat occupies the largest area under organic plant production (1128.77 ha), while oats (636.4 ha) are in second place, and maize occupies the third position with a total of 591.18 ha (maize for silage occupies an additional 303.98 ha). As for the regional distribution, largest areas are represented in area of Vojvodina (384.65 ha) and slightly less in the region of Šumadija and Western Serbia (160.58 ha). There is a growing trend in the demand for organic corn around the world. Considering the needs of the market, maize organic production in Serbia is small, especially in comparison with the areas under conventional production. Organic production is Serbia's export opportunity.

Keywords: maize; areas; hybrids; organic farming

1. Introduction

Maize (*Zea mays* L.), the most evolutionarily developed and domesticated plant species in the World. It belongs to the grass family (*Poaceae*) and the order Maydeae (*Tripsaceae*) (Ljubičić et al., 2023) It is one of the most important agricultural plants, in the world as well as in Serbia (FAO, 2023). At the global level, maize, wheat and rice make up 87% of the total grain production, and provide approximately 43% of the total food calories consumed worldwide (FAO, 2023). It is grown on over 1.2 million hectares, and annually

produces 4.5–6.5 million tons of grain. Average yields vary ignificantly and are conditioned mainly by the amount and distribution of precipitation during the growing season (Bekavac, 2012; Božović et al.,2022; Božović et al.,2018; Božović et al.,2020; Popović, 2010).

The basic economic importance of maize stems from its diverse use in human and animal nutrition and industrial processing. Over 1500 different industrial and food products (starch, sweeteners, oils, beverages, glue, industrial alcohol, ethanol, etc.) are obtained from maize through technological processes (Glamočlija, 2012). The chemical composition of maize is about 71% starch (variation 3%), 10% protein (variation 8%), 4.7% oil (variation 10%) and 2.5% cellulose (variation 10%), which gives 365 Kcal/100 g (Ranum et al., 2014).

Organic agriculture appeared as a reaction to environmental pollution, urbanization and the preservation of flora and fauna. It strives to apply the concept of multifunctionality in practice in the concrete working and living space, including biodiversity, autochthonous species and breeds, care for animals, but also the repopulation of rural areas, and the increase of the social and economic standard of living (Knickle, 2000; Šiljković, 2002; Milenković & Tasić, 2013). Organic production preserves and improves soil biodiversity, controls and increases soil fertility with its methods, protects the environment and applies the highest standards of plant and animal health protection (Ugrenović & Filipović, 2012; Golijan et al., 2017). The main goal of organic agriculture is the production of high-quality food (high nutritional value) and the development of sustainable agriculture, while preserving ecosystems and maintaining and increasing soil fertility. Organic food production is becoming more and more popular than production based on conventional methods, and as such, it is becoming one of the most profitable businesses in the world. Organic cereal production on a global scale is increasing day by day. The most commonly grown types of grain are wheat, maize, rice, barley, oats, rye, sorghum, millet, triticale and buckwheat. The chemical composition of grains and their properties are key factors of the exceptional importance of these foods not only in human and animal nutrition, but also in their industrial processing (Popović et al., 2017).

The intensive growth of organic production in recent years is characteristic of many countries. The areas on which organic production takes place in the world amount to 96.4 million ha. The region with the most organic agricultural land was Oceania with 53.2 million ha, followed by Europe with 18.5 million, Latin America (9.5 million), Asia (8.8 million), North America (3.6 million) and Africa (2.7 million) (Willer et al., 2024). Areas under organic crop production in Serbia have been growing in recent years, but their share in total agricultural areas is still relatively small (up to 0.5%) (Miljatović et al., 2018). In Serbia, organic plant production takes place on an area of 25035.11 ha (Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, 2024). The United States of America is the largest producer of maize, contributing nearly 36% of the total production in the world and maize is the driver of the US economy. Maize is predicted to become the number one cereal in the world by 2030 (Tripathi et al., 2020). The aim of this paper was to indicate the perspective and current state of organic production, with a special focus on organic corn production in Serbia.

2. Materials and Methods

In this paper, the desk research method was applied. A comprehensive review of the available scientific literature related to organic agriculture and organic crop production was carried out. In addition, official statistical data published by the Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia were used as the main source of empirical information. Based on these secondary data sources, the study analyzed the extent and structure of areas under organic maize production in 2022 in the Republic of Serbia. Special attention was given to the regional distribution of organically cultivated maize areas. The collected data were systematized, processed and presented graphically using the Microsoft Excel (version 2010), which enabled clearer visualization and comparison of the spatial distribution of organic maize production across different regions of the country.

3. Results and Discussion

The areas under organic crop production record constant growth, which can be seen in Figure 1, which shows the areas under organic crop production in the period from 2011, when the Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia presented data on organic crop production for the first time, plant production. The highest production was recorded in 2022, with an area of 25,035.11 ha, which is an increase of 1508.07 ha compared to 2021. Organic crop production in Serbia in 2020 took place on an area of 20,970.75 ha, which is a threefold increase in area compared to 2011 (by 14,635.61 ha). Since

2017, grain production has experienced a decline of 945.62 ha, with organic fruit production taking precedence until today (in 2020, grain 3623.15 ha, fruit 5294.84 ha).

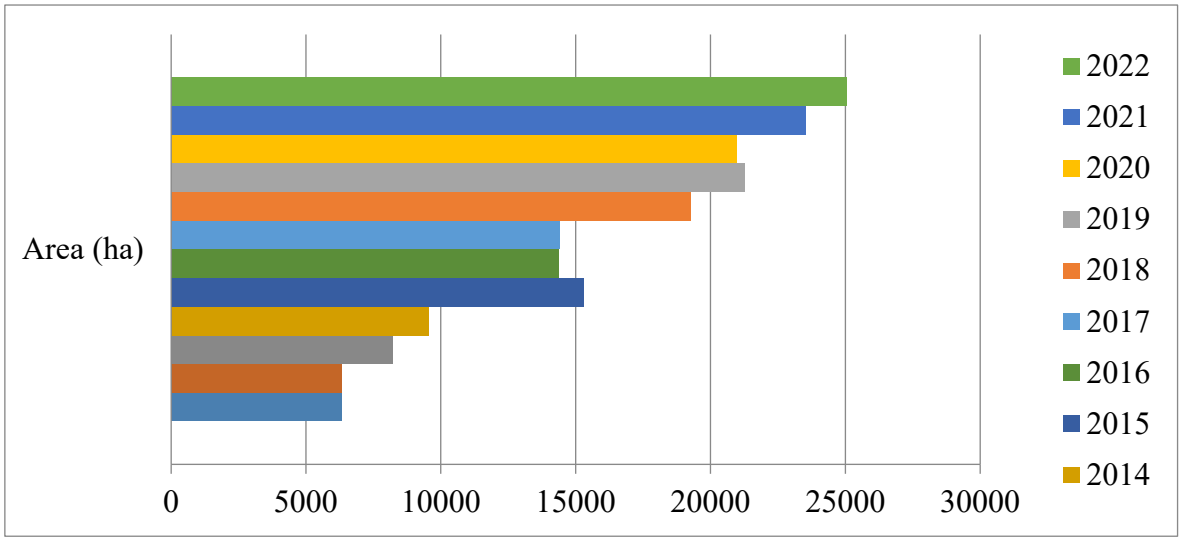

Figure 1. Areas under organic production in Serbia in the period from 2011 to 2022 (ha). Source: authors' calculation based on data from the Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia.

When it comes to organic grain production, in 2022 wheat occupies the largest area, with an area of 1128.77ha. Oats are in second place with 636.4 ha, maize is in third place (591.18 ha), barley is fourth (474.41 ha), silage maize is fifth (303.98 ha), etc., and the smallest area is occupied by millet with 10.18 ha (Table 1). Maize is the most important agricultural crop in Serbia. It has been Serbia's main export item for many years. However, organic maize production is recent and the sown areas are still smaller, especially compared to conventional maize production (Golijan & Marković, 2018). When it comes to the organic production of maize in the period from 2011 to 2022, a large variation in production areas can be seen in Figure 2. Thus, the smallest areas were recorded in 2011, only 115.28 ha, and the largest in 2015 (1912.36 ha), which means that the areas have increased 16 times in four years. After 2015, production recorded a gradual decline and then increased again, reaching 591.18 ha in 2022, which means that since then production has decreased threefold (Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, 2024). Golijan and Marković (2018) state that with an area of 984.66 ha in 2016, organic maize occupied the second position behind wheat (2137.27 ha), but in 2016, compared to 2015, the area was reduced by 927.7 ha. A different trend was recorded for silage maize. Namely, the highest production was recorded in 2011 (469.92 ha), and the lowest in 2012 (7.12 ha) (Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, 2024).

Table 1. Areas under organic production of different plant species of cereals in Serbia (ha) in 2022.

Plant Species	Conversion Period	Organic Status	Total (ha)
Barley	116.61	357.80	474.41
Maize	111.17	480.01	591.18
Silage maize	0.56	303.42	303.98
Oats	217.62	418.78	636.40
Millet	0.001	10.84	10.84
Wheat	165.45	963.33	1128.77
Wheat spelt	5.94	197.09	203.02
Ray	28.63	255.66	284.29
Triticale	16.88	50.00	66.88
Buckwheat	96.72	41.87	138.59
Other	0.15	0.02	0.17
In total	759.73	3078.82	3838.54

Source: Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia (2024).

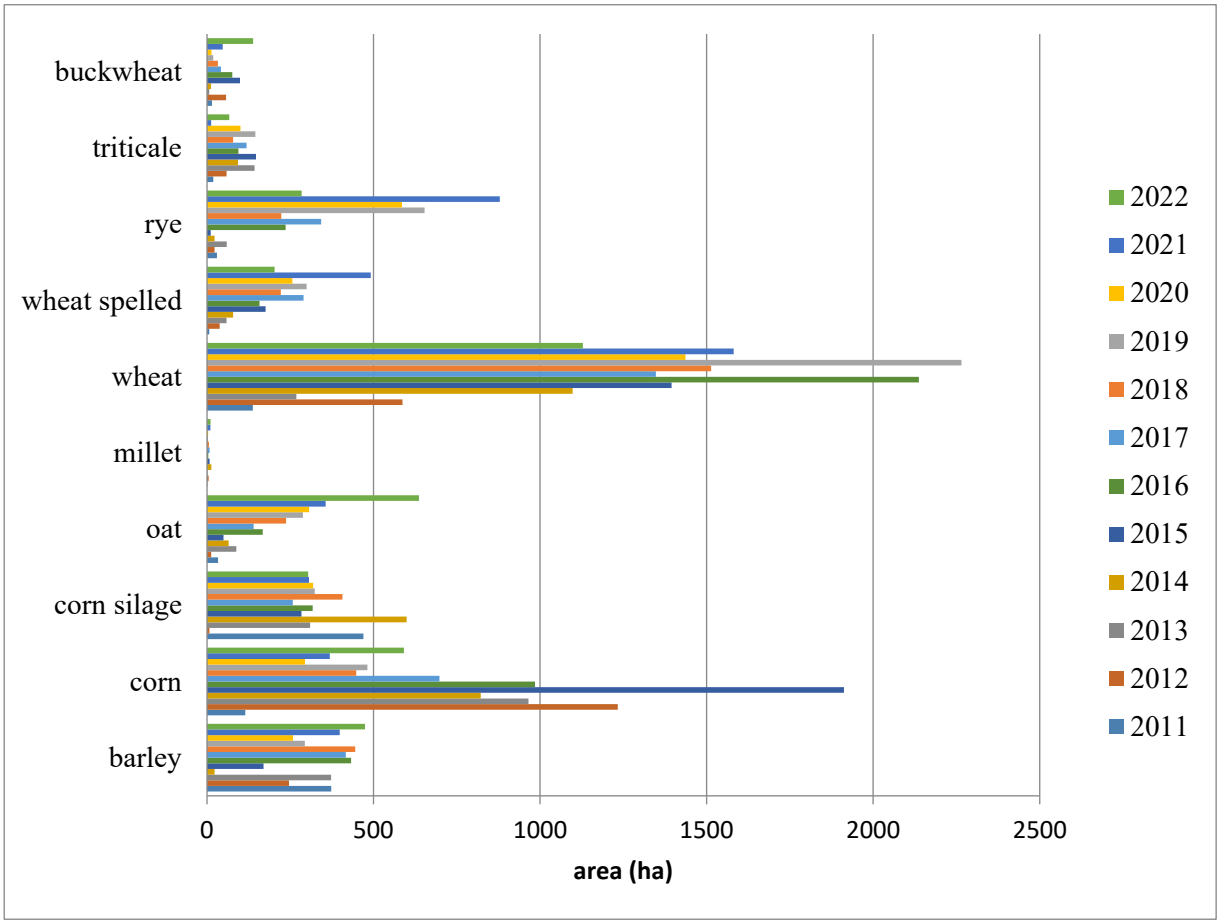

Figure 2. Areas under organic grain production in Serbia in the period from 2011 to 2022 (ha). Source: Authors' calculation based on data from the Ministry of Agriculture, Forestry and Water Management of Republic of Serbia (2024).

When it comes to the regional distribution of areas under organic maize production, the largest areas are located in the Vojvodina Region (384.65 ha), followed by Sumadija and Western Serbia (160.58 ha). In the case of silage maize, the largest areas are also in Vojvodina (294.62 ha), the smallest in the Region of South and Eastern Serbia (9.36 ha), while no organic production of silage maize was recorded in the Region of Šumadija and Western Serbia and the City of Belgrade (Table 3) (Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, 2024).

Table 3. Areas under maize in organic production (period of conversion and organic status) by region in 2022.

Region	Maize (ha)			Silage Maize (ha)		
	Conversion Period	Organic Status	Total (ha)	Conversion Period	Organic Status	Total (ha)
Belgrade	0.34	1.57	1.91	-	-	-
Šumadija and Western Serbia	62.48	98.1	160.58	-	-	-
Southern and Eastern Serbia	27.19	16.85	44.04	0.56	8.80	9.36
Vojvodina	21.16	363.49	384.65	0.01	294.62	294.62
Total	111.17	480.01	591.18	0.56	303.42	303.98

Source: authors' calculation based on data from the Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia (2024).

Within the region of Šumadija and Western Serbia, the largest areas under organic maize production are recorded in the Raške district (80.1 ha), and the smallest in the Šumadija district (0.46 ha), while there is no recorded organic maize production in the Mačva district (Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, 2024) (Figure 3).

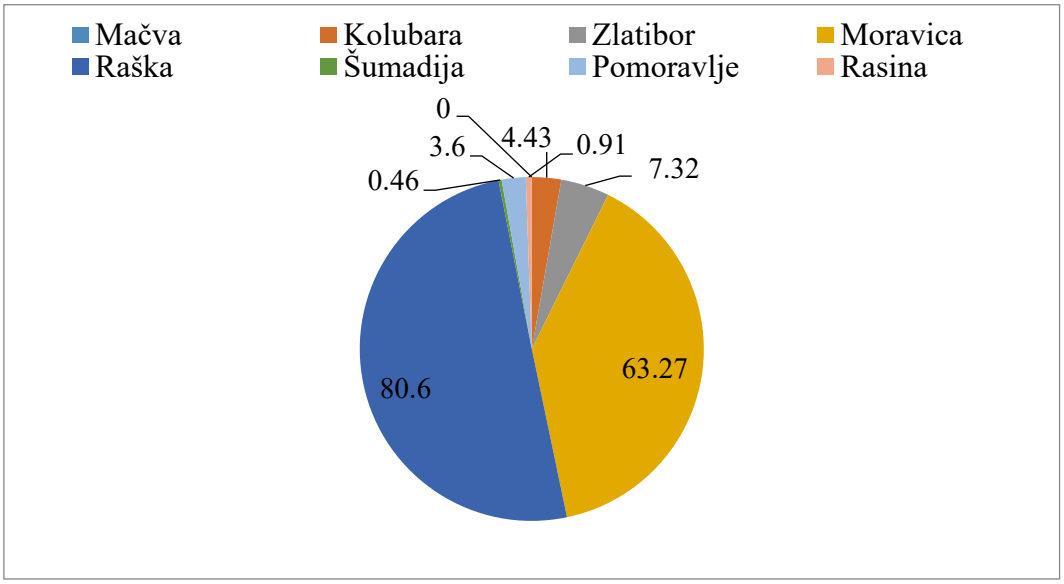

Figure 3. Area (ha) under organic maize production in the region of Šumadija and Western Serbia (districts) in 2022.

As for the distribution of organic production of maize and maize for planting in the region of South and Eastern Serbia, the largest areas under maize were recorded in Pirot (20.26 ha), and the smallest in Braničevo District (0.03 ha), while in Podunavski District there is no registered organic maize production. In the case of silage maize, the largest areas were recorded in the Pirot district (7.69 ha), the smallest in the Toplički district (1.68 ha), and in the other districts no organic production of silage maize was recorded (Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, 2024), Figure 4.

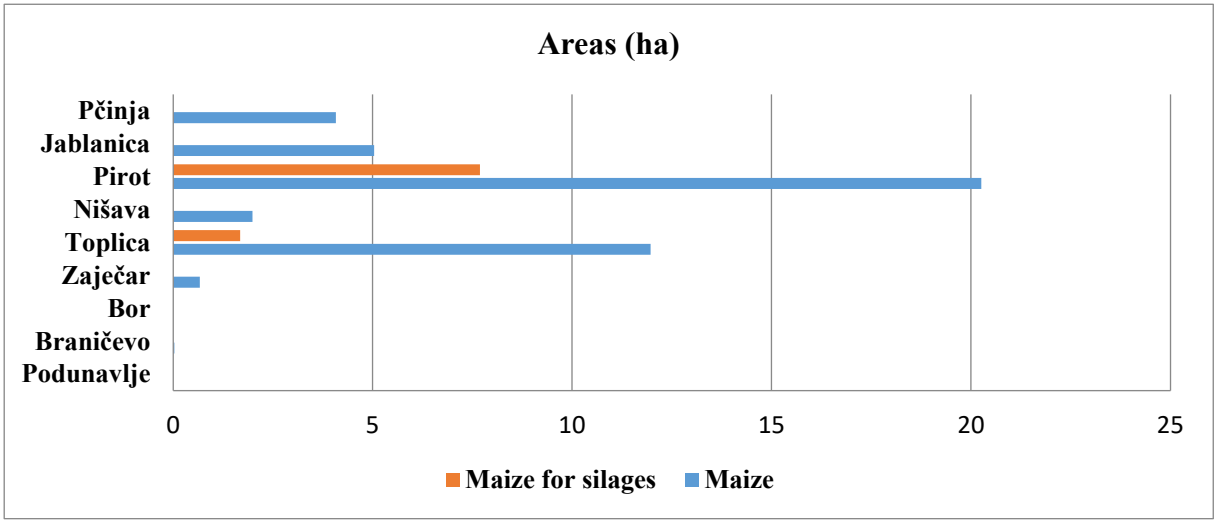

Figure 4. Area (ha) under organic maize production and silages maize in the region of Southern and Eastern Serbia (districts) in 2022.

The largest areas under organic production of maize and silage maize are located in the Region of Vojvodina, Figure 4. When it comes to organic maize, the largest areas are represented in South Bačka district District (164.34 ha), the smallest in Srem District (1.06 ha), while in the case of maize for silage, the only organic production is recorded in South Bačka District (294.62 ha). South Bačka district is also the district with the largest organic production of silage maize in the entire territory of Serbia (Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia, 2024) (Figure 5).

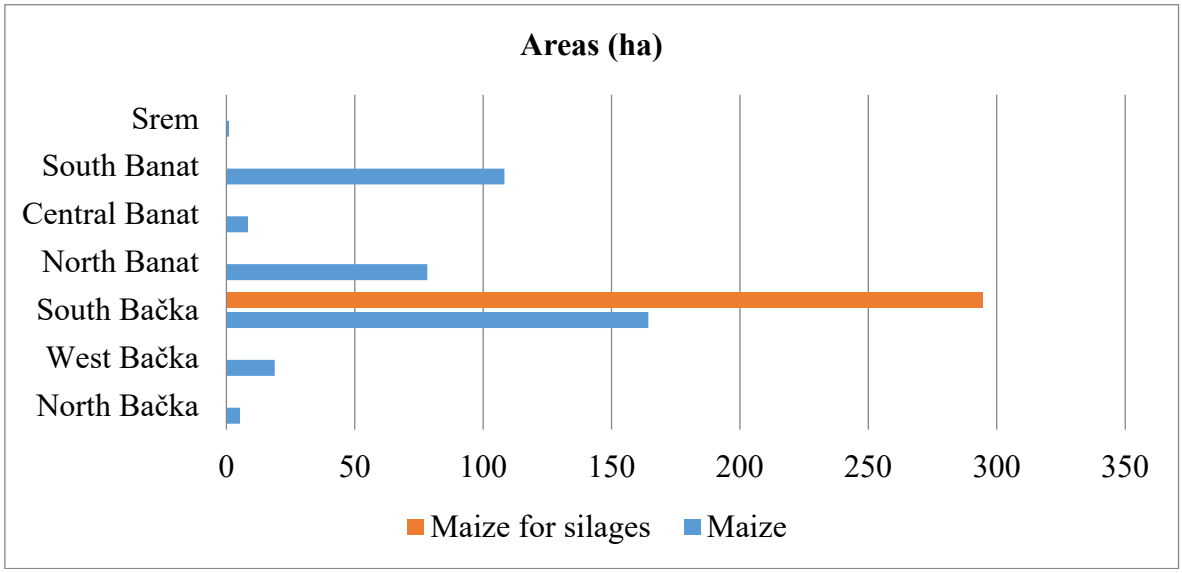

Figure 5. Area (ha) under organic production of maize and maize for silages in the region of Vojvodina (districts) in 2022.

In 2022, organic production in the world took place on an area of 96.4 million hectares, which is 2% of the total agricultural land. Organic agricultural land increased by 26.6% or 20.3 million hectares in 2022. In 2022, Ukraine became the third most important supplier of organic products in the EU, primarily thanks to increased deliveries of organic soybeans, wheat and maize. At the global level, in 2022, grain was produced on an area of 5,641,202 ha. Also, more than 5.6 million ha or 0.75% of the global cereal area was under organic management (FAO, 2023). With almost 142,000 metric tons and almost 64 percent of the North American organic exports, cereals (mainly maize, oats and wheat) were the most important product group. Almost 56 percent of the arable land was located in Europe, followed by Asia (23%) and Northern America (11%). Most of the arable cropland was used for cereals (including rice, 5.6 million hectares), green fodder (3.3 million ha) and oilseeds (1.8 million ha) (Willer et al., 2024).

In the system of organic agricultural production, the use of high-quality, declared, certified seeds is of immense importance (Golijan et al., 2018a; Golijan et al., 2018b). One of the key factors for preserving seed production at a high level is the use of certified seed, which has numerous advantages (Ikanović & Popovićm, 2020):

(1) Innovation and breeding: increasing the share of high-yielding and high-quality varieties on the market; constant supply of the market with certain categories of top quality seeds; Strengthening the competitiveness of our country in international trends;

(2) direct effects in production: quality seed material for producers as a prerequisite for achieving higher yields and profits, which can be up to 30%, prevention of the spread of weed plants and diseases through seeds, greater protection of seed users and the environment through controlled treatment in processing centers.

The field of organic seed production in Serbia is regulated in accordance with Regulations (EC) No. 834/2007 and 889/2008 (IFOAM, 2012): European Organic Regulations (EC) No 834/2007, 889/2008), the Law on Organic Production and the Rulebook on control and certification in organic production and methods of organic production.

In the European Union, the production of organic seeds is several to three percent more expensive compared to the same conventionally produced seeds, due to numerous reasons: (1) due to loss during production or insufficiently produced seeds, (2) considering that in this production system, uses chemical protection, there is a greater risk of seed contamination by numerous pathogens, especially weed seeds, (3) due to the heterogeneity of local populations, the problem of uneven maturation arises (the main cause of lower germination and seed germination energy is its uneven maturation) (Bekavac, G., 2012). What is very important to emphasize in the production of organic seeds is that the selection of seeds in this production system is based on seeds with the highest germination (the importance of germination and the energy of seed germination is greater in organic than in conventional production) (Ugrenović et al., 2010). Organic maize seeds are sold at a significantly higher price than conventional seeds. According to data from major global companies that sell organic maize seeds, in 2003 more organic varieties of maize were sold on the

world market, while the price of organic maize seeds ranged from 85 to 120 dollars per unit, that is, on average, about 107.48 dollars (Golijan et al., 2018b). Global Organic Corn market size was USD 1251.80 million in 2023 and the market is projected to touch USD 1691.3 million by 2032 (ECON. (n.d.)).

One of the main prerequisites for the successful production of organic maize is the use of hybrids well adapted to the conditions of the locality where the production is based, i.e., the use of hybrids tolerant to most abiotic and biotic stress factors (Bekavac, 2012). The problem of seeds is present in the organic production of numerous plant species. Thus, in the case of maize and other species, it is not possible to find seeds produced by organic methods on the market (Tabaković et al., 2017). Until 2009, there was no production of certified organic seeds in the Republic of Serbia, which is why producers used seeds from local populations and conventional chemically untreated seeds. The problem was recognized by the state, which is why in 2009 the Regulation on the use of incentives to support seed production using organic methods was adopted.

The problem at the global level is that very few countries use certified seeds. Thus, for example, estimate that in Hungary certified wheat seeds are used by around 12%, in Slovenia by 35%, in Croatia by around 60%, while in Serbia as much as 50% of the area under wheat is sown using undeclared seeds, known as "attic seeds". In the case of soybeans, about 40–50% is also the use of "seeds from the attic".

On the market, the price of organic maize has the same growth trend as the price of conventional maize, but this point of view is not always consistent. According to numerous research, in the long term, organic production can be up to 25% more profitable than conventional production (Bekavac, 2012). For example, organic wheat, maize and rice prices per ton were 533 euros higher in China compared to prices in Germany. In Germany, a ton of organic wheat had a price of 409 euros, organic barley 303 euros, and organic maize 343 euros (Schott & Sanders, 2017).

Even though the areas under organic plant production are increasing day by day (especially in EU countries), there is still an unsatisfactory demand for organic cereals, fruit and animal feed (Roljević et al., 2009; Kalentić et al., 2014). Prerequisites for the successful production of maize is the use of hybrids well adapted to local conditions and tolerant to diseases (Popovic et al., 2024).

4. Conclusions

Organic plant production in the world in 2022 took place on an area of 96.4 million hectares, where by grain was produced on an area of 5,641,202 ha. In Serbia, organic plant production takes place on an area of 25,035.11 ha, which is an increase of 1508.07 ha compared to the previous year 2021.

Maize is the most important arable plant species in Serbia and for many years the main export item of Serbia. One of the main prerequisites for the successful production of organic maize is the use of hybrids well adapted to local conditions and tolerant to diseases and pests. Organic maize production is recent and the sown areas are still smaller. Looking at the period from 2011 to 2022, it can be concluded that the areas under organic maize production varied considerably. The highest production was recorded in 2015 (1912.36 ha), and the lowest in 2011 (115.28 ha). For silage maize, the highest production was recorded in 2011 (469.92 ha), and the lowest in 2012 (7.12 ha).

In Serbia, according to regional distribution, the largest areas under organic maize production and silage maize are located in the Vojvodina Region. Within Vojvodina, the largest areas under organic corn are in the South Bačka district (164.34 ha), which is the district in which the largest organic production of silage maize (294.62 ha) was also recorded in the territory of the whole of Serbia.

At the global level, a growing trend in demand for organic maize is evident. The advantage of maize production using organic farming methods compared to conventional maize is the premiums, which vary from country to country in the range of 20 to 50% higher than the premiums for conventional maize.

Author Contributions

J.G.P.: conceptualization, methodology, software; V.P.: data curation, writing—original draft preparation; S.D. and V.P.: visualization, investigation; J.G.P. and V.P.: supervision; M.P., M.G. and L.S.T.: software, validation; V.P. and V.V.: writing—reviewing and editing. All authors have read and agreed to the published version of the manuscript.

Funding

This research was funded by the Ministry of Science, Technological Development and Innovation of the Republic of Serbia, grant numbers 451-03-33/2026-03/200032; 200054, and 451-03-33/2026-03/200054; 200116; bilateral project Republic of Serbia and Republic of Croatia, 2026–2027: Alternative and fodder plants as a source of protein and functional food; and Bulgarian-Serbian Project (2024–2027): Intercropping in maize growing for sustainable agriculture.

Conflicts of Interest

The authors declare no conflict of interest. Given the role as Editorial Board Member, Viliana Vasileva had no involvement in the peer review of this paper and had no access to information regarding its peer-review process. Full responsibility for the editorial process of this paper was delegated to another editor of the journal.

Use of AI and AI-Assisted Technologies

No AI tools were utilized for this paper.

References

Ljubičić, N., Popović, V., Kostić, M., Pajić, M., Buđen, M., Gligorević, K., Dražić, M., Bižić, M., and Crnojević, V. (2023). Multivariate Interaction Analysis of *Zea mays* L. Genotypes Growth Productivity in Different Environmental Conditions. *Plants*, *12*(11), 2165. https://doi.org/10.3390/plants12112165.

Bekavac, G. (2012). *Guide to organic corn production*. GIZ-German Organization for International Cooperation GmbH.

Božović, D., Popović, D., Popović, V., Živanović, T., Ljubičić, N., Ćosić, M., Spahić, A., Simić, D., & Filipović, V. (2022). Economical Productivity of Maize Genotypes under Different Herbicides Application in Two Contrasting Climatic Conditions. *Sustainability*, *14*, 5629. https://doi.org/10.3390/su14095629.

Božović D., Živanović T., Popović V., Tatic M., Gospavić Z., Miloradović Z., Stankovic G., & Dokić, M. (2018). Assessment stability of maize lines yield by GGE-biplot analysis. *Genetika*, *50*(3), 755–770. https://doi.org/10.2298/GENSR1803755B.

Božović D., Popović V., Rajičić V., Kostić M., Filipović V., Kolarić Lj., Ugrenović V., & Spalević V. (2020). Stability of the expression of the maize productivity parameters by AMMI models and GGE-biplot analysis. *Notulae Botanicae Horti Agrobotanici Cluj-Napoca, 48*(3), 1387–1397. https://doi.org/10.15835/nbha48312058.

ECON. (n.d.). *Organic Corn Market*. https://www.econmarketresearch.com/industry-report/organic-corn-market/.

FAO. (2023). *FAO Statistical Yearbook 2023: World Food and Agriculture.* Food and Agriculture Organization of the United Nations.

Glamočlija, Đ. (2012). *Especially arable farming (grains and grain legumes).* Agricultural Faculty, Belgrade-Zemun.

Golijan, J., & Marković, D. (2018, September 20–21). *Organic maize production in Serbia* [Conference session]. The first scientific conference with international participation "Village and Agriculture" (pp. 125–136). Bijeljina, Bosna i Hercegovina.

Golijan, J., Popović, A., & Živanović, L. (2018a). Organic Seed Production in the Republic of Serbia. *Contemporary Agriculture*, *67*(2), 136–142.

Golijan, J., Popović, A., & Živanović, L. (2018b, May 7–11). Organic seed and the state of its production in the Republic of Serbia [Conference session]. VI Symposium of the Organism Breeding Section of the Society of Geneticists of Serbia and IX Symposium of the Society of Breeders and Seed Growers of the Republic of Serbia (pp. 217–218), Vrnjačka Banja.

Golijan, J., Veličković, M., Dimitrijević, B., & Marković, D. (2017). Plant production by the concept of organic agriculture in the world and Serbia—History and current status. *Acta Agriculturae Serbica*, *22*(43), 67–88.

IFOAM (International Federation of Organic Agriculture Movements). (2012). *European Organic Regulations (EC) No 834/2007, 889/2008 and 1235/2008 An Evaluation of the First Three Years Looking for Further Development*. IFOAM EU GROUP.

Ikanović, J., & Popovićm V. (2020). *Organic plant production*. B&H.

Kalentić, M., Stefanović, E., Simić, I., & Maerz, U. (2014). *Organic agriculture in Serbia*. National Association for the Development of Organic Production Serbia Organica.

Knickle, K. (2000). *Organic farming, good agricultural practices (GAP) and biodiversity-some key issues* (pp. 143–153). IFOAM.

Milenković, S., & Tasić, J. (2013). Organic food as a perspective product of Serbia. Economic topics / Organska hrana kao perspektivni proizvod Srbije. *Ekonomske teme*, *51*(2), 411–424.

Miljatović A., Tomaš-Simina M., & Vukoje V. (2018). Economy of grain production in an organic farming system. *Annals of Scientific Works*, *42*(2), 49–57.

Ministry of Agriculture, Forestry and Water Management of the Republic of Serbia. (2024). http://www.minpolj.gov.rs/organska/?script=lat.

Popović, A., Golijan, J., Sečanski M., & Čamdžija, Z. (2017). Current status and prospects of organic production of cereals in the world. *Agro-knowledge Journal, 18*(3), 199–207.

Popović V. (2010). Agrotechnical and agroecological influences on the production of wheat, maize and soybean seeds [Doctoral dissertation, University of Belgrade].

Popovic V., Vasileva V., Ljubičić N., Rakaščan N., Ikanović, J. (2024). Environment, soil and digestate interaction of maize silage and biogas production. *Agronomy*, *14* (11), 2612; https://doi.org/10.3390/agronomy14112612.

Ranum, P., Peña-Rosas, J. P., & Garcia-Casal, M. N. (2014). Global maize production, utilization, and consumption. *Annals of the New York Academy of Sciences, 1312*(1), 105–112.

Roljević, S., Hamović, V., & Sarić, R. (2009). Organic agriculture in the function of sustainable development. *Economic Themes*, *47*(3), 99–109.

Šiljković, Ž. (2002). Organic agriculture in Central Europe. *Geoadria*, *7*(2), 75–93.

Schott, J., & Sanders, J. (2017). *Global Organic Cereal Production*. Federal Research Institute for Rural Areas, Forestry and Fisheries.

Tabaković, M., Simić, M., Dragičević, V., & Brankov, M. (2017). Organic agriculture in Serbia. *Selection and seed Production*, *23*(2), 45–53.

Tripathi, H., Tripathi, U.C., Kumar, P., & Shivom (2020). Sustainability for maize production under organic farming system. *Just Agriculture*, *1*(1), 224–231.

Ugrenović, V., & Filipović, V. (2012). *Organic production and biodiversity. II Biodiversity Open Days/Organska proizvodnja i biodiverzitet. II Otvoreni dani biodiverziteta*, http://polj.uns.ac.rs/~genetikans/documents/radovi_organska/rad_organska6.pdf.

Ugrenović, V., Filipović, V., Glamočlija, Đ., & Jovanović, B. (2010). Organic seeds—Production and certification at the experimental field of the Institute "Tamiš" Pancevo. *Selection and Seed Production*, *16*(1), 55–62.

Willer, H., Trávníček, J., & Schlatter, B. (Eds.) (2024). *The World of Organic Agriculture. Statistics and Emerging Trends 2024*. Research Institute of Organic Agriculture FiBL, Frick; IFOAM—Organics International, Bonn.