The Impact of the Russia-Ukraine War on Some Egyptian Wheat Variables

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ABSTRACT

The study revealed that wheat area reached its lowest point in 2001, at approximately 2.43 million feddans, while it reached its highest point in 2015, estimated at approximately 3.60 million feddans, with an average of approximately 3.15 million feddans over the study period. By estimating the general time trend equation for the development of wheat cultivated area, it was found that the linear model best suited the nature of the data. It was found that the area cultivated with wheat increased by a statistically significant amount, amounting to approximately 42,000 feddans annually, representing approximately 1.27% of the average. The model as a whole was also proven significant. The results also indicated that approximately 68% of the changes in wheat cultivated area are due to a set of factors whose impact is reflected over time.

It also appears that the world's top wheat-supplying countries represent 20 countries, importing approximately 62% of the average total global imports during the period (2021-2023). Indonesia ranks first in terms of global wheat imports, with an average of approximately 10.604 million tons, representing approximately 5.398% of the average global wheat imports during the same period, which amounted to approximately 126.77 million tons. China comes in second place, with an average import of approximately 10.487 million tons, representing approximately 5.339% of the average total global wheat imports during the study period. Turkey also appears to rank third in terms of wheat imports, with an average of approximately 9.896 million tons, representing approximately 5.038%, while Italy comes in fourth place, with an average of approximately 7.630 million tons, representing approximately 3.885% of the average total global wheat imports. Egypt also ranks fifth in global wheat imports, averaging approximately 7.605 million tons, representing approximately 3.872% of the average total global wheat imports during the study period (2021-2023).

Keywords: Wheat, Russia-Ukraine War, Imports.

INTRODUCTION

Wheat is one of the most important and strategic grain crops, attracting a significant portion of the attention of economic policymakers in the country. The area planted with wheat constitutes one-third of the total grain area in Egypt. Therefore, agricultural policies aim to encourage its cultivation due to its great importance and numerous uses.

The agricultural policy also aims to increase development rates and reformulate pricing policies related to agricultural inputs and outputs based on strong supply and demand performance. In addition, one of the most important objectives of Egyptian agricultural policy is to promote strategic crops, including grain crops in general and wheat in particular, in an effort to raise self-sufficiency and increase the per-acre productivity of these crops.

The agricultural sector has faced numerous problems, including a widening food gap that has reached levels unprecedented in the Egyptian economy. Egypt now imports an estimated half of its food needs, such as wheat and sugar, and sometimes more than half of some food commodities, such as oils, as it imports approximately 90% of its needs.

RESEARCH PROBLEM

Despite the importance of wheat crops in Egypt, cultivated areas and imports have been subject to some economic and political changes, most notably in recent years due to the Russia-Ukraine war, as well as rising population growth rates. As is well known, any war has negative impacts on various sectors, which prompted this research to assess the impact of the Russia-Ukraine war.

RESEARCH OBJECTIVES

The research generally aims to use some statistical analysis tools to identify the impact of the Russia-Ukraine war on wheat crops. The research also aims to study the development of key wheat indicators, as well as the major countries from which wheat is imported to Egypt.

RESEARCH METHOD AND DATA RESOURCES

To achieve the research objectives, the study relied on descriptive and quantitative analysis methods to describe and analyze the variables under study. Various statistical tools were used, including estimating percentages, averages, and relative importance, as well

as analyzing general trend models, using Excel and SPSS.

The study also relied on secondary data sources: These include secondary data published from various sources, such as the Economic Affairs Sector, the Central Administration of Agricultural Economics - Ministry of Agriculture and Land Reclamation, and secondary data published on the Internet and the World Bank.

RESEARCH RESULTS

First: Development of wheat crop production across Egypt:

A - Development of wheat cultivated area:

Table (1) and Figure (1) of the study demonstrate the development of wheat cultivated area during the period (2000-2023). It is evident that wheat cultivated area reached its lowest point in 2001, at approximately 2.43 million feddans, while it reached its highest point in 2015, estimated at approximately 3.60 million feddans, with an average of approximately 3.15 million feddans during the study period.

By estimating the general time trend equation for the development of wheat cultivated area, the equation in Equation revealed that the linear model best suited the nature of the data. It was found that the wheat cultivated area increased by a statistically significant amount, amounting to approximately 42,000 feddans annually, representing approximately 1.27% of the average. The model's significance was also confirmed as a whole. The results also indicated that approximately 68% of the changes in wheat cultivated area are due to a set of factors whose impact is reflected over time.
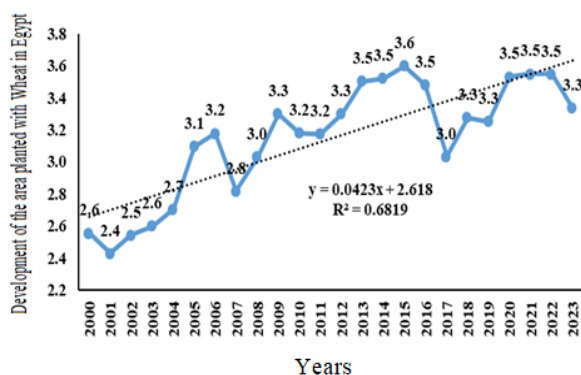

Fig.1. development of wheat cultivated area in Egypt (million Fadden) during the period (2000-2023)
Source: Data from Table (1) of the study.

$\hat{Y}_i = 2.62 + 0.042 \ X_i$
$\quad (29.71)^{**} \ (6.87)^{**}$
$\quad R^2 = 0.68 \quad F = 47.16 \quad \%\text{annual change} = 1.27\%$

Where: $\hat{Y}_i$: Estimated value of the studied wheat yield indicators.

X_i = Variable representing time for years of study in observation (i), where (i1) = (1, 2, 3, ..., 24).

(*) = Significant at a significance level of 0.05.

(**) = Significant at a significance level of 0.01.

Source: Results of statistical analysis of the data contained in Table (1) of the study.

B - Wheat Yield Development:

Table (1) and Figure (2) show the development of wheat yield per acre during the period (2000-2023). This shows that yield reached its lowest in 2010, at approximately 2.26 tons/acre, while it reached its highest at approximately 2.91 tons/acre in 2023. The average during the study period was approximately 2.63 tons/acre.

By estimating the general time trend equation for wheat yield development, the equation in Equation shows that the linear model best fits the nature of the data. It was found that wheat yield increased by a statistically significant amount at a significance level of 5%, reaching approximately 0.007 tons/acre annually, representing approximately 0.23% of the average. The significance of the model as a whole was also proven. The results also indicated that approximately 16% of the changes in wheat yield are due to a group of factors whose impact is reflected in time.

$\hat{Y}_i = 2.55 + 0.007 \ X_i$
$(55.26)^{**} \ (2.06)^{*}$
$\quad R^2 = 0.16 \quad F = 4.26 \quad \%\text{annual change} = 0.23\%$

Where: $\hat{Y}_i$: Estimated value of the studied wheat yield indicators.

X_i = Variable representing time for years of study in observation (i), where (i1) = (1, 2, 3, ..., 24).

(*) = Significant at a significance level of 0.05.

(**) = Significant at a significance level of 0.01.

Source: Results of statistical analysis of the data contained in Table (1) of the study.
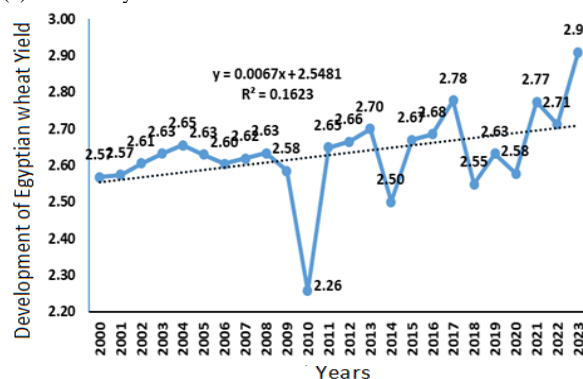

Fig.2. Development of Egyptian Wheat Yield during the period (2000-2023)
Source: Data from Table (1) of the study.

Table 1. Development of cultivated area, yield, and production of wheat crops in Egypt during the period (2000-2023) (Area: million feddans, Yelied: tons/acre, production: million tons)

Years	Area	Yelied	production
2000	2.56	2.57	6.56
2001	2.43	2.57	6.25
2002	2.54	2.61	6.62
2003	2.60	2.63	6.84
2004	2.70	2.65	7.18
2005	3.10	2.63	8.14
2006	3.18	2.60	8.27
2007	2.82	2.62	7.38
2008	3.03	2.63	7.98
2009	3.30	2.58	8.52
2010	3.18	2.26	7.18
2011	3.17	2.65	8.41
2012	3.30	2.66	8.80
2013	3.50	2.70	9.46
2014	3.52	2.50	8.80
2015	3.60	2.67	9.61
2016	3.48	2.68	9.34
2017	3.03	2.78	8.42
2018	3.28	2.55	8.35
2019	3.25	2.63	8.56
2020	3.53	2.58	9.10
2021	3.55	2.77	9.84
2022	3.55	2.71	9.62
2023	3.33	2.91	9.70
المتوسط	3.15	2.63	8.29

Source: Compiled and calculated from the official website of the Food and Agriculture Organization. WWW.FAO.ORG.

C - Wheat Production Development:

Table (1) and Figure (3) of the study show the development of wheat production during the period (2000-2023). It is clear that wheat production reached its lowest level of approximately 6.25 million tons in 2001, while it reached its highest level in 2021, estimated at approximately 9.84 million tons. The average during the study period was approximately 8.29 million tons.

By estimating the general time trend equation for wheat production development, the equation in Equation showed that the linear model best suited the nature of the data. It was found that wheat production increased by a statistically significant amount of approximately 130,000 tons annually, representing approximately 8.29% of the average. The model's significance was also proven as a whole. The results also indicated that approximately 75% of the changes in wheat production are due to a group of factors whose impact is time-dependent. The model's significance was also proven as a whole, with an F value of approximately 64.56.

$$\hat{Y}_i = 6.63 + 0.13\ X_i$$
$$(28.11)^{**}\ \ (8.03)^{**}$$
$$R^2 = 0.75\ \ F = 64.56\ \ \ \ \%\text{annual change} = 8.29\%$$

Where: $\hat{Y}_i$: Estimated value of the studied wheat yield indicators.

X_i = Variable representing time for years of study in observation (i), where (i1) = (1, 2, 3, ..., 24).

(*) = Significant at a significance level of 0.05.

(**) = Significant at a significance level of 0.01.

Source: Results of statistical analysis of the data contained in Table (1) of the study.
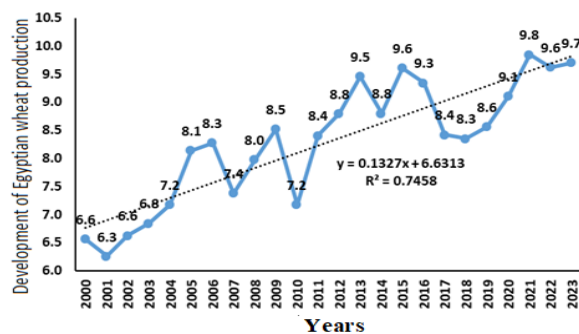

Fig. 3. Development of Egyptian wheat production during the period (2000-2023)
Source: Table (1) in the study.

Second: Geographical Distribution of the Quantity and Value of Wheat Imports by the World's Major Countries:

A- Geographical Distribution of the Quantity of Wheat Imports by the World's Major Countries:

Table (2) shows the geographical distribution of wheat imports by the world's major countries during the study period (2021-2023). It is clear that the world's major wheat-supplying countries represent 20 countries, importing approximately 62% of the average total global imports during the same period.

Indonesia ranks first in terms of the quantity of wheat supplied globally, with an average of approximately10.604 million tons, representing approximately 5.398% of the average global wheat imports during the same period, which amounted to approximately 126.77 million tons. China ranks second, with its average imports amounting to approximately 10.487 million tons, representing approximately 5.339% of the average total global wheat imports during the study period. Turkey also ranks third in terms of wheat imports, averaging approximately 9.896 million tons, representing approximately 5.038% of the total global wheat imports. Italy ranks fourth, averaging approximately 7.630 million tons, representing approximately 3.885% of the total global wheat imports.

The table shows that Egypt ranks fifth in terms of its global wheat imports, averaging approximately 7.605 million tons, representing approximately 3.872% of the total global wheat imports during the study period (2021-2023). Algeria, Spain, the Philippines, Morocco, and Brazil ranked sixth to tenth, with average imports of approximately 6,961, 6,194, 5,942, 5,516, and 5,374 million tons, representing approximately 3,544%, 3,153%, 3,025%, 2,808%, and 2,736% of the average total global wheat imports.

B- Geographical Distribution of the Value of Wheat Imports by the World's Major Countries:

Table (3) shows the geographical distribution of the value of wheat imports by the world's major countries during the study period (2021-2023). It is clear that the world's major wheat-supplying countries represent 20 countries, exporting approximately 62% of the average total value of global imports during the same period. China ranks first in terms of the value of global wheat imports, with an average of approximately $3.708 billion, representing approximately 5.382% of the average global wheat imports during the same period, which amounted to approximately $68.888 billion. Indonesia ranks second, with an average value of its imports amounting to approximately $3.706 billion, representing approximately 5.379% of the average total global wheat imports.

Table 2. Geographical distribution of the quantity of wheat imports by the world's most important countries in thousand tons during the period (2021-2023)

Importing countries	2021	2022	2023	Average	relative importance
Indonesia	11.481	9.459	10.870	10.604	5.398
China	9.711	9.873	11.878	10.487	5.339
Turkey	8.877	8.907	11.905	9.896	5.038
Italy	7.298	6.917	8.675	7.630	3.885
Egypt	6.641	8.010	8.162	7.605	3.872
Algeria	8.029	7.017	5.836	6.961	3.544
Spain	4.018	4.927	9.636	6.194	3.153
Philippines	6.029	6.251	5.545	5.942	3.025
Morocco	4.669	6.008	5.872	5.516	2.808
Brazil	6.225	5.717	4.181	5.374	2.736
Nigeria	6.370	4.916	4.725	5.337	2.717
Japan	5.126	5.346	5.026	5.166	2.630
Bangladesh	6.982	4.170	2.970	4.707	2.397
Korea	4.422	4.406	4.415	4.414	2.247
Germany	3.921	4.112	5.163	4.399	2.240
Viet Nam	4.699	3.986	4.249	4.311	2.195
Netherlands	4.963	4.069	3.846	4.293	2.185
Iran	7.075	5.288	0.129	4.164	2.120
Mexico	4.435	3.939	4.023	4.132	2.104
Belgium	4.395	3.730	3.289	3.805	1.937
Other Countries	77.353	73.081	76.013	75.482	38.429
World	202.722	190.129	196.406	196.419	100

Source: Compiled and calculated from the official website www.trademap.org

Table 3. Geographical Distribution of the Value of Wheat Imports by the World's Major Countries in Billions of Dollars during the Period (2021-2023)

Importing countries	2021	2022	2023	Average	relative importance
China	3.039	3.780	4.305	3.708	5.382
Indonesia	3.548	3.810	3.758	3.706	5.379
Egypt	2.465	3.803	3.773	3.347	4.859
Turkey	2.693	3.356	3.539	3.196	4.639
Italy	2.270	2.818	3.145	2.744	3.984
Algeria	2.559	3.010	2.108	2.559	3.715
Philippines	1.949	2.584	1.994	2.176	3.158
Japan	1.784	2.508	1.930	2.074	3.011
Morocco	1.590	2.549	1.911	2.017	2.927
Spain	1.185	1.830	2.835	1.950	2.831
Nigeria	2.055	2.045	1.615	1.905	2.765
Brazil	1.851	2.264	1.410	1.842	2.673
Iran	2.487	2.187	0.053	1.575	2.287
Korea	1.349	1.787	1.564	1.567	2.274
Bangladesh	2.150	1.592	0.920	1.554	2.256
Viet Nam	1.387	1.526	1.447	1.453	2.110
Mexico	1.370	1.548	1.436	1.452	2.107
Germany	1.092	1.478	1.525	1.365	1.981
Saudi Arabia	0.703	1.662	1.483	1.283	1.862
Netherlands	1.307	1.346	1.131	1.261	1.831
Other Countries	24.344	29.058	25.063	26.155	37.967
World	63.177	76.540	66.946	68.888	100

Source: Compiled and calculated from the official website www.trademap.org

The table shows that Egypt ranks third in terms of the value of its wheat imports globally, with the average value of its wheat imports amounting to approximately $3.347 billion, representing approximately 4.859% of the average total global wheat imports during the study period (2021-2023). Turkey also appears to be ranked fourth in terms of wheat imports, with an average of about $3.196 billion, representing about 4.639%, while Italy, Algeria, the Philippines, Japan, Morocco, and Spain are ranked fifth to tenth, with an average of about $2.744, $2.559, $2.176, $2.074, $2.017, and $1.950 billion, representing about 3.984%, $3.715%, $3.158, $3.011, $2.927, and $2.831 of the average total value of world wheat imports, which amounts to about $68.888 billion for each of them, respectively.

Third: The Development of the quantity, price, and value of Egyptian wheat imports and exports:

A- Development of the quantity of Egyptian wheat imports:

A study of the indicators in Table (4) and Figure (4) shows that the quantity of Egyptian wheat imports during the period (2000-2023) ranged from a minimum of approximately 4.1 thousand tons in 2003 to a maximum of approximately 12.9 thousand tons in 2017, with an average of approximately 8.5 thousand tons.

By estimating the time trend equation in Table (6), the results of the statistical estimation for the period (2000-2023) show that the quadratic model is the best model statistically. It is shown that the value of Egyptian wheat imports during the study period increased until it reached its highest quantity in 2012, representing approximately 11.4 million tons. It then began to decline at a statistically significant annual rate of approximately 80,000 tons per year, representing approximately 0.8% of the average of approximately 10.0 million tons during the period (2013-2023). The coefficient of determination (R^2) was approximately 0.86, meaning that 86% of the changes in the value of Egyptian wheat imports during the study period are due to variables whose impact reflects the time factor, while the remainder is due to other variables that were not taken into account.By estimating the time trend equation in Table (6), the results of the statistical estimation for the period (2000-2023) show that the quadratic model is the best model statistically. It is shown that the value of Egyptian wheat imports during the study period increased until it reached its highest quantity in 2012, representing approximately 11.4 million tons. It then began to decline at a statistically significant annual rate of approximately 80,000 tons per year, representing approximately 0.8% of the average of approximately

10.0 million tons during the period (2013-2023). The coefficient of determination (R^2) was approximately 0.86, meaning that 86% of the changes in the value of Egyptian wheat imports during the study period are due to variables whose impact reflects the time factor, while the remainder is due to other variables that were not taken into account.

$$\hat{Y}_1 = 1.5 + 1.2\, X_i - 0.04\, X_i^2$$
$$(1.8)\ (7.4)^{**}\ (-6.1)^{**}$$
$$R^2 = 0.86 \quad F = 40.80^{**}$$

Where: $\hat{Y}_i$: Estimated value of the studied wheat yield indicators.

X_i = Variable representing time for years of study in observation (i), where (i1) = (1, 2, 3, ..., 24).

(*) = Significant at a significance level of 0.05.

 (**) = Significant at a significance level of 0.01.

Source: Results of statistical analysis of the data contained in Table (1) of the study

Table 4. Development of the quantity, export price, and value of Egyptian wheat imports during the period (2000-2023)

Years	Import quantity (million tons)	Import price (ton/ dollar)	Import value (billion dollars)
2000	4.9	145.7	0.71
2001	4.4	151.1	0.67
2002	5.6	146.3	0.82
2003	4.1	149.5	0.61
2004	4.4	166.6	0.73
2005	5.7	162.5	0.92
2006	8.0	171.0	1.37
2007	8.2	262.1	2.16
2008	8.3	295.6	2.46
2009	9.1	241.2	2.20
2010	10.6	245.3	2.60
2011	9.8	326.4	3.20
2012	11.4	322.8	3.69
2013	10.3	264.0	2.72
2014	11.2	282.9	3.16
2015	10.7	226.6	2.42
2016	11.1	190.0	2.12
2017	12.9	202.8	2.62
2018	12.1	217.1	2.64
2019	10.4	290.1	3.02
2020	9.0	300.3	2.69
2021	6.6	371.2	2.47
2022	8.0	474.8	3.80
2023	8.2	462.3	3.77
المتوسط	8.5	252.8	2.2

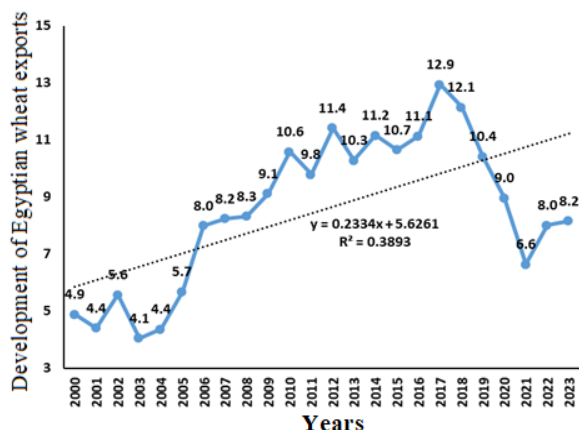Source: Compiled and calculated from the official website www.trademap.org

Fig. 4. Development of Egyptian wheat exports in thousand tons during the period (2000-2023)
Source: Data from Table (5) of the study.

B- Development of the Price of Egyptian Wheat Imports

A study of the indicators in Table (5) shows that the price of Egyptian wheat imports during the period (2000-2023) ranged from a low of approximately $145.7/ton in 2000 to a high of approximately $474.8/ton in 2022, with an average of approximately $252.8/ton.

By estimating the time trend equation in Table (6), the results of the statistical estimation for the period (2000-2023) show that the linear model is the best model from a statistical standpoint, as it has taken an increasing trend with a statistically significant annual rate of approximately $9.98/ton per year, representing approximately 3.9% of the average for the study period, which amounted to approximately $252.8/ton. The coefficient of determination (R^2) was approximately 0.58, which means that 58% of the changes in the price of Egyptian wheat imports during the study period are due to variables whose effect reflects the time factor, and the remainder is due to other variables that were not taken into account.

$$\hat{Y}_2 = 128.1 + 9.98 \, X_i$$
    (4.91)**   (5.47)**
     $R^2 = 0.58$ F = 29.92**   %annual change = 3.9%

Where: $\hat{Y}_i$: Estimated value of the studied wheat yield indicators.

X_i = Variable representing time for years of study in observation (i), where (i1) = (1, 2, 3, ..., 24).

(*) = Significant at a significance level of 0.05.

(**) = Significant at a significance level of 0.01.

Source: Results of statistical analysis of the data contained in Table (1) of the study

C- Development of the Value of Egyptian Wheat Imports

A study of the indicators in Table (5) shows that the value of Egyptian wheat imports during the period (2000-2023) ranged from a minimum of approximately $0.61 billion in 2003 to a maximum of approximately $3.80 billion in 2022, with an average of approximately $2.2 billion.

By estimating the time trend equation in Table (6), the results of the statistical estimation for the period (2000-2023) show that the linear model is the best model from a statistical standpoint. It is evident that the value of Egyptian wheat imports during the period (2000-2023) has taken a statistically significant upward trend, amounting to approximately $121 million annually, representing approximately 5.4% of the average. The coefficient of determination (R2) was approximately 0.69, which means that 69% of the changes in the value of Egyptian wheat imports during the study period are due to variables whose effect reflects the time factor, and the remainder is due to other variables that were not taken into account.

$$\hat{Y}_3 = 0.72 + 0.121 \, X_i$$
    (2.88)**   (6.94)**
     %$R^2 = 0.68$ F = 48.12**   annual change = 5.4%

Where: $\hat{Y}_i$: Estimated value of the studied wheat yield indicators.

X_i = Variable representing time for years of study in observation (i), where (i1) = (1, 2, 3, ..., 24).

(*) = Significant at a significance level of 0.05.

(**) = Significant at a significance level of 0.01.

Source: Results of statistical analysis of the data contained in Table (1) of the study

The Impact of the Russia-Ukraine War on Wheat Indicators during the Period (2020-2023):

The results of Table (6) of the t-test analyses for the difference between two means show:

1. There is a statistically insignificant difference in the area planted with Egyptian wheat, productivity, production, and the quantity of imports, indicating that the Russia-Ukraine war has no impact on the aforementioned variables.

2. There is a statistically significant difference at a significance level of 0.05 in the price of Egyptian wheat imports, indicating that the Russia-Ukraine war has a negative impact on the price of wheat imports, as the price of wheat imports increased during the war period. There is also a statistically significant difference at a significance level of 0.01 in the value of Egyptian wheat imports, indicating that the Russia-Ukraine war has a negative impact on the value of wheat imports, as the value of wheat imports increased during the war period.

Table 6. Results of the T-test analysis of the impact of the Russia-Ukraine war on some wheat variables during the period (2020-2023)

Variables	t-test for Equality of Means					
	T	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Area	-0.905	0.461	- 0.100	0.110	- 0.375	0.575
Yield	0.979	0.431	0.135	0.138	- 0.728	0.458
Production	0.511	0.660	0.190	0.372	- 0.179	1.411
Quantity of Imports	0.248	0.827	0.300	1.204	-5.481	4.881
Price of Imports	3.689*	0.066	132.80	35.997	-287.681	22.081
Value of Imports	10.854**	0.008	1.201	0.111	-2.502	0.916

Source: Statistical analysis results.

RECOMMENDATIONS

Through the results of the statistical analysis of the research data, several recommendations were made to improve the wheat crop, summarized below:

1. Expand the area planted with wheat by reclaiming new areas and adding them to the agricultural area.
2. Conclude agreements with new international markets in light of the ongoing war between Russia and Ukraine.
3. Conduct public awareness programs to rationalize wheat consumption.

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الملخص العربي

اثر حرب روسيا وأوكرانيا علي بعض متغيرات القمح المصري

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اتضح من الدراسة أن مساحة القمح بلغ أدناه عام ٢٠٠١ بحوالي ٢.٤٣ مليون فدان، بينما بلغ أقصاه خلال عام ٢٠١٥ حيث قدر بحوالي ٣.٦٠ مليون فدان بمتوسط بلغ حوالي ٣.١٥ مليون فدان خلال فترة الدراسة. وبتقدير معادلة الاتجاه الزمني العام لتطور المساحة المنزرعة من القمح تبين أن الصورة الخطية هي أفضل الصور ملائمة لطبيعة البيانات حيث تبين أن المساحة المنزرعة من القمح تزايدت بمقدار معنوي احصائياً بلغت حوالي ٤٢ ألف فدان سنوياً بما يمثل نحو ١.٢٧٪ من المتوسط، كما ثبتت معنوية النموذج ككل، كما أوضحت النتائج أن حوالي ٦٨٪ من التغيرات الحادثة في المساحة المنزرعة من القمح ترجع إلى مجموعة من العوامل التي يعكس أثرها الزمن.

كما يتضح أن اهم الدول الموردة للقمح علي مستوي العالم تمثل ٢٠ دولة من دول العالم حيث تستورد حوالي ٦٢٪ من متوسط إجمالي كمية واردات العالم خلال الفترة (٢٠٢١-٢٠٢٣). وتأتى إندونيسيا فى المركز الأول من حيث الكمية الموردة من القمح علي مستوي العالم بمتوسط بلغ حوالى ١٠.٦٠٤ مليون طن يمثل حوالى ٥.٣٩٨٪ من متوسط واردات العالم من القمح خلال نفس الفترة والبالغ حوالى ١٢٦.٧٧ مليون طن. كما تأتى الصين فى المركز الثانى حيث بلغ متوسط كمية وارداتها حوالى ١٠.٤٨٧ مليون طن يمثل نحو ٥.٣٣٩٪ من متوسط إجمالي كمية واردات القمح علي مستوي العالم خلال فترة الدراسة. كما يتبين أن تركيا تأتى فى المركز الثالث من حيث واردات القمح حيث بلغ متوسطها حوالى ٩.٨٩٦ مليون طن يمثل نحو ٥.٠٣٨٪، وتأتي إيطاليا في المركز الرابع بمتوسط بلغ حوالى ٧.٦٣٠ مليون طن بما يمثل نحو ٣.٨٨٥٪ من متوسط إجمالي كمية واردات القمح علي مستوي العالم. كما يتبين أن مصر تأتى فى المركز الخامس من حيث وارداتها من القمح علي مستوي العالم حيث بلغ متوسطها حوالى ٧.٦٠٥ مليون طن يمثل نحو ٣.٨٧٢٪ من متوسط إجمالي كمية واردات القمح علي مستوي العالم خلال فترة الدراسة (٢٠٢١-٢٠٢٣).

الكلمات المفتاحية: القمح، حرب روسيا واوكرانيا، الواردات.