



Research Article

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# The Economic Impacts on the Italian Agri-Food Sector of the Russian-Ukrainian War and the Recent Post-Covid Period



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## Abstract

The article discusses the impact of the COVID-19 pandemic and the conflict in Ukraine on the agricultural sector in Europe, especially in Italy. It explores the need for precision agriculture to address the immediate difficulties faced by the sector, particularly in curbing production costs due to the shortage of available resources. The paper also provides an overview of the report produced by the AGRI Committee of the European Parliament, which assessed the effects of the pandemic on European agriculture, highlighting how the catering industry, floriculture, and sugar sectors suffered significant losses. The article further explores the implications of the conflict in Ukraine on the global food supply chain, causing a rise in food prices and posing a challenge to global food security. The study uses statistical survey data from ISTAT (Italian National Institute of Statistics) and analysis of open-source scientific bibliography to assess the economic consequences of the pandemic on the agriculture, forestry, and fishing sector in Italy in 2020, highlighting a decline in production volume and added value in several sectors, including floriculture, agriculture, and fishing.

**Keywords:** Agri-Food Sector; Covid-19 Pandemic; Food Security; Floriculture; Agriculture; Fishing; Energy Resources

## Introduction

In the digital epoch, precision agriculture has been thrust into the spotlight as an imperative to surmount an ever-escalating series of adversities. Once deemed by many as a simple panacea for environmental issues, it has since emerged as one of the few viable options to address the immediate difficulties besetting the sector (Workie E. et al. 2020) In light of the shortage of available energy resources, fertilizers, and plant protection products on the market, there exists a pressing need to curtail production costs within the primary industry. The present discourse endeavours to articulate a lucid account of the current predicament within the primary sector in our nation, particularly as it relates to the recent upheavals stemming from the COVID-19 pandemic and the conflict in Ukraine [1,2]. In 2021, the AGRI Committee of the European Parliament instigated an inquiry to assess the preliminary effects of the COVID-19 pandemic on European agriculture, with the aim of undertaking a sectoral analysis of food systems and market resilience. The report that ensued exposed how the European Union's food supply chain, on the whole, had demonstrated remarkable resilience amid the intricate dynamics

of the pandemic during the 2020s. Nevertheless, the catering industry (including wine and livestock), floriculture, and sugar sectors confronted substantial financial losses.

## Related Works

The Russia-Ukraine war has had a significant impact on the agricultural sector in Europe, particularly in the supply of organic fertilizers, food production, and prices, according to three articles published in 2022. The disruption in organic fertilizers and agricultural production has led to a great supply shock and a subsequent rise in the price of agricultural produce, which has caused food insecurity across the globe [3]. The war has hampered Ukraine's export capacity, caused labor shortages, and restricted access to vital agricultural products such as fertilizers. The war has also triggered a panic buying movement at the country and individual levels [4]. Furthermore, the war has implications for the global food supply chain, leading to significant additional disruption in the global food supply chains after the COVID-19 impact. The disruption to food output, supply chains, availability,

and affordability could have a long-standing impact, and the availability and supply of a wide range of food raw materials and finished food products are under threat, with recent increases in food prices [5]. Thus, the war has disrupted a viable environment for agricultural and organic production and exportation, causing the rise in food prices and posing a challenge to global food security. The authors suggest that international trade becomes more flexible and open in fertilizers and food production and exports, and policymakers promote policy dialogues and market scrutiny and transparency to address the uncertain global food market influenced by the Russia-Ukraine war. However also the COVID-19 pandemic has had a substantial impact on the agricultural sector [6,7], as illuminated in the articles under review. The pandemic has had detrimental effects on food supply chains, food demand, and food security, especially for the most vulnerable members of society. Siche [8] posits that the pandemic has had a profound influence on agriculture and the food supply chain, which has led to alterations in food demand and consequent impacts on food security. Additionally, vulnerability and resilience have emerged as critical factors to consider when examining the pandemic's impacts on agriculture, as highlighted by Štreimikienė, et al. [9]. The article underscores the adverse effects of COVID-19 on agriculture and food systems and recommends strategies to bolster the resilience of agricultural systems in the face of the pandemic. Lastly, Barichello [10] suggests that agricultural trade may not experience as significant an impact from the pandemic as other sectors, given the relatively low income elasticity of demand. However, he also highlights potential threats to trade, including policy responses by trade partners, such as import restrictions and protectionist measures by competing domestic producers.

### Material and Methods

We carried out a statistical survey on ISTAT data and analysis of the available open source scientific bibliography.

### The economic consequences of the Covid-19 pandemic

According to data provided by ISTAT for the year 2020, Italy's agriculture, forestry, and fishing sector experienced a significant decline below the European average, attributable to the impact of the Covid-19 pandemic crisis. Specifically, there was a reduction in production volume by 3.2% and added value by 6%. Notably, the fishing (-8.8% in production and -5.3% in added value), agriculture (-3.2% in production and -6.4% in added value), and floriculture (-8.4% in production and -2.4% in added value) sectors suffered the most. Additionally, the production of olive oil, wine (particularly in the South of the Peninsula), legumes, industrial plants, and meat animals all experienced negative outcomes in 2020 [11,12]. Furthermore, secondary activities that had previously experienced constant growth scored more than 20 points in the negative in terms of both volume and added value. Unfortunately, this situation persisted throughout 2021, necessitating several government interventions to support the

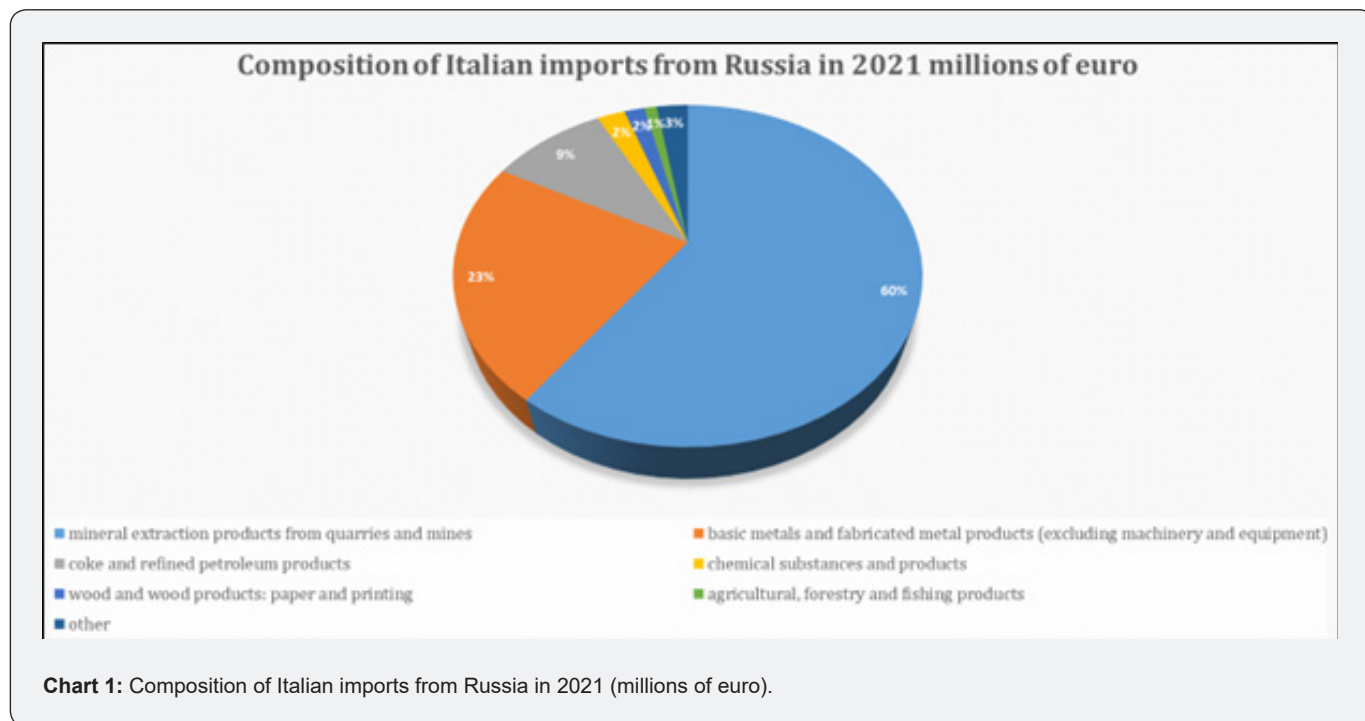
sector through law decrees, such as "Cura Italia," "Liquidity 'Relaunch,'" "Simplifications," "August 'Ristori,'" and "Sostegni," all of which were converted into law by Parliament with mixed results. However, paradoxically, from the perspective of accidents at work in the agricultural sector, the pandemic resulted in a considerable contraction in the number of complaints filed with INAIL (Italian National Institute for Insurance against Workplace Accidents) by agricultural workers. According to Inail's report on trends in occupational diseases and accidents at work, between January and December of 2020, there were 26,287 complaints filed, representing a decrease of 19.6% compared to the 32,692 complaints filed in the same period in 2019. Even more notably, the limitations imposed by the lockdown resulted in a noticeable decrease in accidents occurring during transit, with only 1,187 reports in 2020 compared to 1,600 in 2019, a reduction of 25.8%.

### The effects of the war in Ukraine

Further aggravating the situation is the recent war conflict between Russia and Ukraine, which, in addition to the obvious humanitarian repercussions, is leading to a drastic drop in the economic stability of all countries in the world, and in particular of those countries linked to these two nations by historical relations. of import-export of raw materials such as gas, oil, fertilisers pesticides and foodstuffs. For a careful analysis of the importance of these dynamics in Europe, it is possible to examine the work carried out by Ice - the Agency for the promotion abroad and internationalisation of Italian companies (Kiev Office) - which, in 2017, produced an interesting note on the Ukrainian fruit and vegetable sector. In particular, the strong agricultural vocation of Ukraine emerges (a country characterised by the high presence of fertile black soil and a high rate of agricultural mechanisation). This makes the country, reads the note- the world's leading producer of sunflower seeds and one of the world's leading producers of rye, barley, rapeseed and soya beans [13,14]. Among the first outcomes of the Ukrainian conflict - recalling that according to information released by the Economic Observatory of the Italian Government, our country annually imports goods from Ukraine for an average value of 2,557.54 million euro/year (of which 12.3% are foodstuffs) - it is possible to record the halt in trade in goods such as sunflower oil and some cereals. sunflower oil and some cereals. It is precisely Ukraine that supplies the EU with 57% of its imports of maize, 42% of rapeseed and 47% of sunflower seeds, all of which are destined for animal feed. The import situation becomes even more critical if we consider Russia, which is our (and Europe's) main supplier of gas, oil and its derivatives. Moreover, considering such an essential food source as wheat, Europe's fragility in its supply emerges, precisely in considering the fact that Russia and Ukraine together produce a quarter of the world's wheat: 18% and 7% respectively. And it is not only an issue related to goods from Eastern countries, but a generalised problem; for example, for soya we are totally tied to imports! As stated by Paolo De Castro, Vice-President of the

Agriculture Commission of the European Parliament, the current situation highlights structural deficiencies in the Union's supply system. According to the data of the Economic Observatory of the Ministry of Foreign Affairs and International Cooperation,

trade between our country and Russia is very important and in particular, in 2021 alone, we imported more than EUR 12.5 billion in products from the extraction of minerals, base metals, coke and refined petroleum products (Chart 1).



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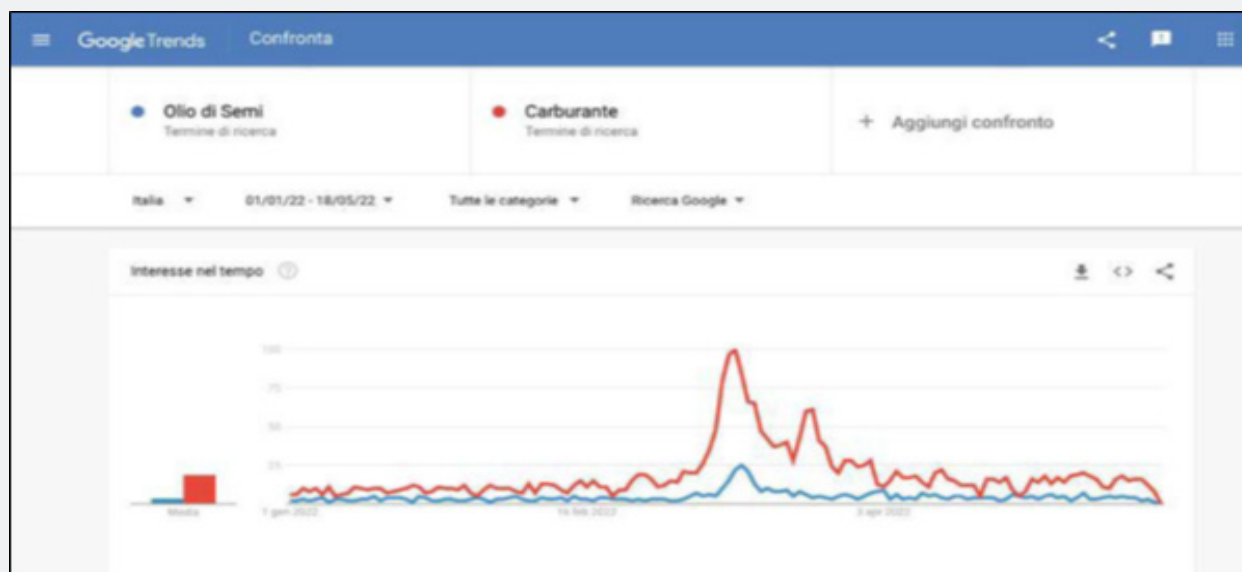
agriculture such as fertilisers, plant protection products animal feed. The issue of fertilisers is even dramatic, as Russia has a near monopoly on nitrates and potassium, which until a few weeks ago came to us directly from the port of Odessa. Russia is the leading exporter world's leading exporter of fertilisers, as evidenced by its production of more than 50 million tonnes, in fact as highlighted by IFA data that point out that China and Russia are the main producing countries in the world of nitrogen-based fertilisers and phosphorous. According to the US Geological Survey (USGS), Russia boasts a mining production of 7.2 million of tonnes of potassic fertilisers (Belarus 6.4 million of tonnes).

**The consequences for Italian agrifood companies**

The current conflict between Russia and Ukraine is causing widespread economic instability around the world, and this is having a particularly strong impact on countries that are heavily involved in the import and export of raw materials such as gas, oil, fertilizers, pesticides, and foodstuffs. This is leading to a variety of negative consequences for the agricultural sector in particular, which relies heavily on a delicate balance between production costs and sales prices. Recent research conducted by the Centre for Agricultural Research and Analysis of Agricultural Economics (CREA) has shed light on the effects of the conflict on Italian farms. The report analyzed the increase in production costs that farms are

facing as a result of the soaring prices caused by the conflict. The research has revealed that the conflict has disrupted energy and agricultural markets, leading to significant impacts on companies operating in the primary sector in Italy. In addition to the already-discussed issue of the expected increase in the costs of fuel, feed, plant protection products, and other essential materials in the Italian primary sector, the report highlights the urgent need for farmers to have reliable information to make informed decisions in the short term. Farmers must mitigate negative impacts and seize any opportunities related to the need to increase production in Italy and across Europe. This need is primarily related to the drop in company added value, which has declined by a negative 38 percentage points. This decline could potentially send any sector into crisis, but it is particularly concerning for the agricultural sector, which is governed by precarious balances. Therefore, it is essential to find solutions to mitigate the negative impacts of the current conflict on the agricultural sector and ensure that the sector remains sustainable and profitable in the long term. In light of the ongoing crisis, the agricultural sector in our country is facing a difficult situation. The sector heavily relies on the balance between production cost and sales price, and the continuation of the current situation would be unsustainable. The Centre for

Agricultural Research and Analysis of Agricultural Economics (CREA) has recently published a report on the impact of the war in Ukraine on Italian farms. The report indicates that the conflict has disrupted the energy and agricultural markets, resulting in an increase in production costs and negative impacts on companies operating in the primary sector. The report highlights the urgent need for farmers to have reliable information to make informed decisions in the short term to mitigate negative impacts and seize any opportunities related to increasing national and European domestic production. The drop in company added value is a major concern, with a negative 38 percentage points that could potentially send any sector into crisis, especially one that is already governed by precarious balances. The current situation in the agricultural sector goes beyond the issue of energy and food supply. The rising prices would undermine the ability of the less affluent population to access essential goods, even if energy and food sources can be procured. The negative outlook on inflation exacerbates the situation, heralding an imminent contraction in the purchasing power of households. Inflation has caused an increase in prices of bread, animal feed, and fertilizers for fields. The impact of the war is not only economic but also psychological-social, as shown by the analysis of Google Trends data (Chart 2).



**Chart 2:** The Google Trends screenshot shows the surge in the trend of searches by Italians of the terms 'fuel' and 'seed oil' after 20 February, the day of the outbreak of war in Ukraine.

The search for topics such as the cost of petrol, fuel, seed oil, and sunflower oil has surged since the day the war broke out, indicating the extent of the hardship caused by the conflict. In this precarious situation, mediation policies aimed at achieving peace are of utmost importance. However, the only way to achieve

balance seems to be through careful and judicious management of the resources at our disposal. The development of smart farming techniques that aim to maximize the return between costs and benefits is an urgent necessity for both companies and the entire population. In light of recent events, policies aimed at ensuring



that the European Union has supply quotas of less than 60-80% for any good in the near future are crucial. It is essential to take immediate action to mitigate the negative impacts of the crisis and ensure the sustainability of the agricultural sector.

### Conclusion

The article discusses the impact of the COVID-19 pandemic and the conflict in Ukraine on the agricultural sector in Europe. The shortage of energy resources, fertilizers, and plant protection products has increased the need for precision agriculture. The disruption in organic fertilizers and agricultural production due to the conflict in Ukraine has led to a great supply shock, causing a rise in food prices and food insecurity globally. The COVID-19 pandemic has also had detrimental effects on food supply chains, food demand, and food security, particularly for the most vulnerable members of society. The article presents the results of a statistical survey on ISTAT data that indicates a significant decline in Italy's agriculture, forestry, and fishing sector below the European average due to the impact of the COVID-19 pandemic crisis. The fishing, agriculture, and floriculture sectors were the most affected, and several government interventions were required to support the sector. The article suggests that policymakers promote policy dialogues and market scrutiny and transparency to address the uncertain global food market influenced by the Russia-Ukraine war and the COVID-19 pandemic.

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