

What is the impact of the war in Ukraine on exports of fresh and processed fruits and vegetables?

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Russia is a big importer of fresh and processed fruits and vegetables. Ukraine is a much smaller market. The war in Ukraine has made exports of fresh fruits and vegetables to these countries vulnerable. At the same time, demand for products like fresh tomatoes and processed fruits and vegetables may go up. For some developing countries, Russia is already an important market for fresh avocados, coconuts, tomatoes and mangoes. Imports of preserved fruits and vegetables from developing countries are small now but they are likely to grow.

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1. How does the war in Ukraine impact sourcing inputs for fresh and processed fruits and vegetables?

The war in Ukraine has caused prices of all sourcing inputs to rise sharply. When importers pass on the higher prices to their customers, this has not had a serious impact on producers and exporters. When producers and exporters cannot get higher prices, they may lose money. The high prices of fertiliser have caused serious problems for individual, small farmers who do not have a lot of money. Because of this, some farmers are now exploring alternative crops or fertilisers.

Product focus

The focus of this study is on 3 categories:

- fresh vegetables;
- fresh tropical fruit;
- preserved fruits and vegetables.

For each category, the analysis will zoom in on specific products for which developing countries play a relatively (or potentially) large role in exports to Europe, Russia and Ukraine:

- fresh vegetables: fresh tomatoes;
- fresh tropical fruit: fresh avocados, fresh mangoes and fresh coconuts;
- preserved fruits and vegetables: tinned pineapple.

The developing countries in this study are grouped into the following regions:

- West and Central Asia;
- Other (East and South) Asia;
- Middle East and North Africa (MENA);
- Africa;
- South America.

Input prices have gone up

Fertiliser is an important input for growing fruits and vegetables. Other inputs for the production of fruits and vegetable are electricity, diesel and pesticides.

[Vegetables need the most fertiliser](#) per hectare of any crop. Fruits also use an above-average amount of fertiliser. Each crop has its own profile of inputs, depending on the species and on factors such as location and climate. For example, bananas need much more fertiliser than citrus fruits. Fruits and vegetables need all 3 main categories of fertilisers: nitrogen-based, phosphorus and potassium.

The war has especially raised prices for energy commodities and for inputs that are produced with a high use of energy commodities. Fertilisers are a clear example of such an input. Nitrogen-based fertilisers are the biggest group. Their production process starts by mixing nitrogen from the air with hydrogen from natural gas (an energy commodity) at high temperature and pressure to create ammonia. About 60% of the natural gas is used as raw material. The other 40% is used to power the synthesis process.

Russia is one of the world's main exporters of both fertilisers and energy commodities. The developing countries that export fruits and vegetables import fertiliser from Russia, but they also import fertiliser from many other countries. Ivory Coast, for example, imported \$64 million of fertilisers from Russia in 2021, but also \$167 million from other countries.

The countries that are the most dependent on fertiliser imports from Russia are:

- Ghana;
- Niger;
- Nigeria.

More than 80% of their fertiliser imports came from Russia between 2016-2020. Overall, countries in East Africa are less dependent on fertiliser imports from Russia, although on average countries in East Africa also import about 30% of the volume from Russia.

Of course, [Russia's temporary ban on fertiliser exports](#) and the [quota on fertiliser exports between July and December 2022](#) may have had an impact on countries that import fertilisers from Russia. But the relatively high fertiliser prices have a much bigger impact. Also, the developing countries that are important producers of fruits and vegetables do not rely too much on Russia for their imports of energy commodities.

Farmers look for alternatives to synthetic fertiliser

Especially in countries that temporarily have too little fertiliser, individual small farmers are struggling with the high fertiliser prices. Some governments are actively trying to support their farmers. In Kenya, for example, [the government has received a loan](#) from the African Development Bank. This loan is meant to "support food security efforts amid rising cost of inputs and prevailing drought" and it gives farmers subsidised access to fertiliser.

To reduce their need for synthetic fertiliser, some farmers are planting crops that need less fertiliser than their usual produce. This is also likely to affect vegetable production, as vegetables need more fertiliser than any other crop. Some developing countries are also exploring the use of organic fertiliser.

Figure 1: Ghanaian farmers look for organic alternatives as Russian fertiliser costs skyrocket

Source: [VOAZimbabwe @YouTube](#)

Tips:

Stay up to date on developments for farm inputs, for example by following [RaboResearch Farm Inputs](#).

Stay up to date on developments in the global fresh fruits and vegetables sector, for example by following [RaboResearch Fresh Produce](#).

See this overview of [estimated fertiliser use by crop category in selected countries](#) for an idea of which crops use most fertilisers per country.

Keep track of national initiatives that offer subsidies or other financial support to farmers to compensate for the higher input prices.

Explore opportunities to develop a local production/supply of [organic fertiliser](#).

2. How does the war in Ukraine impact competition for fresh and processed fruits and vegetables?

Overall, the impact of the war in Ukraine leads to more competition for products for which exporters temporarily send exports to other countries, instead of to Russia and/or Ukraine, because of the expected risks. This situation may temporarily cause stronger competition in individual markets. Russia and Ukraine do not produce

and export the fruits and vegetables that are usually exported by developing countries, except for a few vegetables such as fresh tomatoes.

Russia and Ukraine's imports of fruits and vegetables from developing countries will drop

Russia is an important market for fresh and processed fruits and vegetables. Ukraine is a much smaller market. The following paragraphs give more details about different subsectors.

Fresh tropical fruit imports

Russia and Ukraine do not produce their own tropical fruit, which means that they depend on imports for these products. South America dominates the supply of tropical fruit – mostly Ecuador, followed by Costa Rica. A few neighbouring countries in West and Central Asia also supply tropical fruit to Russia and Ukraine – mainly Azerbaijan, followed by Turkey and Uzbekistan. Almost all tropical fruit is imported directly from the origin countries, which means that there is not much transit trade through other regions such as Europe.

*2021 is not included because Russia has not yet reported to UN Comtrade (in July 2022).

The volumes may seem small in Figure 2, but developing countries from MENA, Africa, and East and South Asia export relatively high volumes to Russia and Ukraine. Kenya is the top supplier in East Africa, Egypt in MENA, and Ivory Coast in West Africa.

The fresh tropical fruit exports to Ukraine are relatively small – a decline in Ukrainian imports will not affect exporting countries very much – but the Russian market is large. However, almost all of Russia's imports come from countries that have not imposed trade restrictions on Russia. This means that there are no opportunities for exporters from some countries to benefit from a boycott imposed by other countries.

Fresh vegetable imports

Although Russia and Ukraine are producers of fresh vegetables, they also import high volumes. Figure 3 gives more information.

*2021 is not included because Russia has not yet reported to UN Comtrade (in July 2022).

West and Central Asia is by far the largest region that supplies fresh vegetables to Russia and Ukraine. The most important supplying countries from that region are Turkey and Azerbaijan, followed by Uzbekistan. The second-largest supplying region is MENA, mainly for Russia. About 90% of these MENA exports to Russia come from Egypt (292,000 tonnes), and most of the rest come from Morocco (37,000 tonnes). The most important suppliers from Africa are Senegal (4,500 tonnes), Kenya (500 tonnes) and Ethiopia (200 tonnes).

The Russian market for fresh vegetables is large. However, almost all of Russia's imports come from neighbouring countries in West and Central Asia, MENA countries and other Asian countries that have not imposed trade restrictions on Russia. This means that, in general, there are few opportunities for exporters from other developing countries (such as African countries) to become new suppliers because of a boycott imposed by the main countries that supply to Russia.

Preserved fruits and vegetables

Russian and Ukrainian imports of preserved fruits and vegetables (see Figure 4) mostly come from South and East Asia. China is the largest supplying country by far, followed by Thailand, Vietnam and India. Supply from Russia and Ukraine's neighbouring countries in West and Central Asia is much smaller but still important. The main supplying countries are Armenia, Moldova, Turkey and Uzbekistan.

*2021 is not included because Russia has not yet reported to UN Comtrade (in July 2022).

Fresh (tropical) fruits and vegetables mostly come from developing countries, and some come from Europe, but this is different for preserved products. European exports of preserved products to Russia are the largest in absolute volumes. The main European supplier is Spain, followed quite far behind by Poland, Italy, Greece, Hungary and Germany.

The Russian market for preserved fruits and vegetables is large, much larger than Ukraine's market. Russia is an especially important destination for China. Unlike for fresh fruits and vegetables, Europe is also an important supplier of preserved products to Russia. However, European suppliers of preserved fruits and vegetables are not allowed to export their products to Russia anymore. This means that Russian buyers will try to import more from their suppliers in other regions, such as from China. But they will also be more interested in new supplying countries and regions.

The market has become even more unstable than it already was

The fruit and vegetable industry already faced several challenges before the Russian invasion started. Most importantly, the sector faced logistical challenges, such as container shortages, since the outbreak of the COVID-19 pandemic in 2020. These challenges still impact the industry in 2022. They affect both the supply of labour – fruit pickers, packhouse employees, drivers – and the way products are traded. Shipping costs have increased, which means that exports are sometimes too expensive to make a profit.

The global production of fresh fruits and vegetables has faced all these challenges that sometimes resulted into lower-than-planned deliveries to markets, but buyers can still get fresh fruits and vegetables from several supplying countries and regions for fruits and vegetables. This partly reduces the effects of common disruptive events such as failed harvests or too few fruit pickers. Overall, while Russia and Ukraine will probably import lower volumes of fruits and vegetables in 2022, the disruptive events will probably make up for that.

It is important to note that, if no buyer can be found for fresh produce, the produce will usually be sent to the processed fruits and vegetables industry. However, the expected decline of Russian imports may have a considerable impact on individual exporters whose main market is Russia.

Tips:

Stay up to date on relevant developments in the global fresh produce industry through [Freshplaza](#). For example, they report that [Morocco's fruit and vegetable exports to Russia are up by 45%](#) during the first 7 months of 2022 (year-on-year).

If you need to find new markets/buyers for your exports, use our [tips to find buyers of fresh fruits and vegetables](#) and [processed fruits and vegetables](#). For example, visit trade fairs such as [Anuga](#) and [Fruit Logistica](#).

Find out which European markets to target in our studies about the demand for [fresh fruits and vegetables](#) and [processed fruits and vegetables](#).

3. How does the war in Ukraine affect exports of fresh and processed fruits and vegetables from developing countries?

Russia is an important market for fresh and processed fruits and vegetables, and it is much larger than Ukraine. Products for which developing countries are relatively important suppliers to Russia and Ukraine are fresh avocados, coconuts, tomatoes, mangoes and tinned pineapple. Fresh produce exports to Russia and Ukraine are

expected to decline in 2022, but Russian buyers will also need processed fruits and vegetables from new regions. This will lead them to discover the potential for these products in Africa and MENA.

Russian and Ukrainian imports of fresh avocados, coconuts, tomatoes and mangoes will drop

The fresh and processed fruits and vegetables market is not a completely global market. Different regions and countries have specific kinds of local production and international sourcing. Russia and Ukraine have a lot of local production of some fruits and vegetables, such as stone fruits. Their imports of fruits and vegetables mostly come from neighbouring countries such as Turkey, Azerbaijan and China. For tropical fruit, they mainly rely on direct imports from developing countries.

Products for which developing countries are relatively important suppliers to Russia and Ukraine are:

- fresh avocados;
- fresh coconuts;
- fresh tomatoes;
- fresh mangoes;
- tinned pineapple.

Figure 5: Fresh mangoes from the Dominican Republic



Source: Globally Cool

Now there is a war in Ukraine, how important are the markets of Russia and Ukraine for developing countries? The selected fruits and vegetables that Ukraine and Russia import from developing countries are nearly all

direct imports. This means that re-exports, for example through European countries, only play a limited role. Figures 6-10 give more details about Russian and Ukrainian imports for the 5 selected products.

Imports of fresh tomatoes from developing countries

The countries that supply the most fresh tomatoes to Russia and Ukraine are Azerbaijan, Turkey and Armenia.

In the MENA region, Morocco (12,000 tonnes on average per year in 2018-2020) is the main exporter of fresh tomatoes to Russia, but Egypt and Tunisia also export fresh tomatoes to Russia. All exports from Africa come from one country: Senegal (1,500 tonnes).

The Russian market may experience unusually low imports for the next few years, because the huge export of tomatoes from Azerbaijan to Russia has been banned due to a conflict between these 2 countries. This may result in more Russian demand for tomatoes from other countries, including Morocco, Senegal and Egypt.

Imports of fresh avocados from developing countries

Africa and South America have an equal share of the Russian and Ukrainian markets. The country that supplies the most avocados to Russia is Kenya. Kenya's exports to Russia reached 6,100 tonnes per year on average in 2018-2020, and Kenya exported 1,000 tonnes to Ukraine. This means that Kenya is the number 1 country for avocado exports to Russia, ahead of Peru and Israel. These 3 leading supplying countries have not imposed sanctions on trade with Russia, meaning that these trade volumes are unlikely to move to other countries.

At the same time, higher transport costs are more likely to affect supply to the Russian and Ukrainian (and European) avocados market. For example, Peruvian exporters may focus more on North America, and eventually the export volumes coming to Russia, Ukraine and Europe may be smaller. This change may benefit supplying countries that are closer to the European continent.

Imports of fresh coconuts from developing countries

Ivory Coast in Africa is Russia's overall leading supplier of coconuts, far ahead of the Asian countries Thailand and Vietnam. Ivory Coast's exports to Russia reached 2,200 tonnes per year on average, and the country exported 900 tonnes to Ukraine. Because none of the main supplier countries have imposed sanctions against trade with Russia, their trade volumes are unlikely to move to other countries.

Imports of fresh mangoes from developing countries

Russia is a much larger market for mangoes than Ukraine. The South American countries Peru and Brazil dominated exports of mangoes to both Russia (4,300 tonnes on average per year) and Ukraine (3,500 tonnes). China (1,900 tonnes) and Egypt (1,700 tonnes) followed quite far behind.

Russia and Ukraine also import mangoes from African countries: Ivory Coast (1,500 tonnes to Russia and 100 tonnes to Ukraine), Senegal (500 and 100 tonnes), and Ghana, Mali and Kenya (between 120 and 300 tonnes each in total to Russia and Ukraine).

Because none of these mango exporting countries have imposed sanctions against trade with Russia, relative volumes from these countries are unlikely to change. At the same time, higher transport costs are more likely to affect supply to the Russian, Ukrainian and European markets. For example, this may cause Brazilian and Peruvian exporters to focus more strongly on North America. Eventually, it could lead to smaller export volumes coming to Russia, Ukraine and Europe.

Imports of preserved fruits and vegetables from developing countries are expected to increase

For 2022 and beyond, we expect to see a considerable gap between demand in Russia and supply from outside Russia. This is because of the relatively important role of European exports and re-exports of preserved fruits and vegetables. Because of the European export ban to Russia, Russia is likely to search for other supplying countries such as Egypt (MENA) or Kenya (East Africa).

Russian importers already know that developing countries can supply this category of products. One example of this is tinned pineapple, which is in the category of 'preserved fruits and vegetables'. More than 98% of Russian and Ukrainian imports already come from developing countries, mainly from Thailand, Vietnam, Indonesia and Kenya. This shows that Russian and Ukrainian buyers have already found suppliers of preserved fruits and vegetables in these countries.

This example concerns tinned pineapple in the category of preserved fruits and vegetables, but the same is likely to happen with other processed fruits and vegetables subsectors, such as frozen fruits and vegetables. For example, Kenya also produces frozen fruits and vegetables. Buyers from Russia will probably discover Kenya's frozen fruits and vegetables capacity sooner or later.

Exporting to Russia has become risky

Since the Russian invasion of Ukraine and the international sanctions imposed on Russia, shipping fruits and vegetables to Russia has become risky for some exporters. For example, [exporters from South Africa struggled in the first months of the war](#). Although marine and credit insurance for shipping to Russia was often still available, many exporters of fruits and vegetables chose to send their exports to other destinations. This led to situations of undersupply, and a need for alternative suppliers.

Tips:

Follow developments in the Russian market closely, and look out for business opportunities if you export processed fruits and vegetables, such as preserved and frozen fruits and vegetables.

Read more about [how Russia had to move towards direct imports of fruits and vegetables from outside Europe, and about the Russian market opportunities for fruit from developing countries](#).

For more information about exporting to Europe, see our studies on [avocados](#), [mangoes](#), [coconut](#) and [tinned fruits and vegetables](#).

This study was carried out on behalf of CBI by [Globally Cool B.V.](#)

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