



Vegetable Oil Markets Briefing Note: The Impact of the Conflict in Ukraine

Info Briefing #3

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1 Introduction and context

The impacts of conflict often trigger additional economic issues that extend internationally throughout different markets. The Russian invasion of Ukraine, and subsequent international responses, has led to reductions in the availability of oil and gas and, as a result, increased prices for these fuels and global fuel prices. Additionally, the war has disrupted the harvesting and export of sunflower seeds from Ukraine, which is one of the world's largest sunflower oil producers, which has had a knock-on effect on the oils and fats markets more widely in terms of price and availability.

This briefing note explores the current situation of the vegetable oil market, looking at prices and production, and how these have been impacted by the Ukraine-Russia war, focusing specifically on exports and supply of sunflower and rapeseed oil. It also provides reflections on the role soybean oil may play in providing solutions to the current challenges within the vegetable oil market.

2 The vegetable oil market

The Ukrainian-Russian conflict continues to push vegetable oil prices up, hitting record highs in March 2022, increasing by 24.8% from February 2022, according to the UN Food and Agricultural Organisation (FAO).¹ The economic implications of the Ukrainian-Russian conflict continue to weaken the vegetable oil market, following rising costs and global supply chain issues since the start of the COVID-19 pandemic in 2020. The sustained price increases of vegetable oils have led to questions on the lasting impact of the Ukrainian-Russian conflict on the oils and fats market, and how the UK market will react, with demand increasing and supply levels declining.

According to the FAO Vegetable Oil Price Index, price increases have fluctuated since 2004, but current figures represent a total price increase of 267% compared to 2004 prices (see Figure 1).¹ While growth rates have been consistent between 2004 and 2021, price increases between January 2022 and March 2022 represent some of the most significant since 2004. Figure 2 references that, on average, vegetable oil prices are up by 40% compared to previous 2021 monthly averages between January and June.¹

¹ <https://www.fao.org/worldfoodsituation/foodpricesindex/en/>

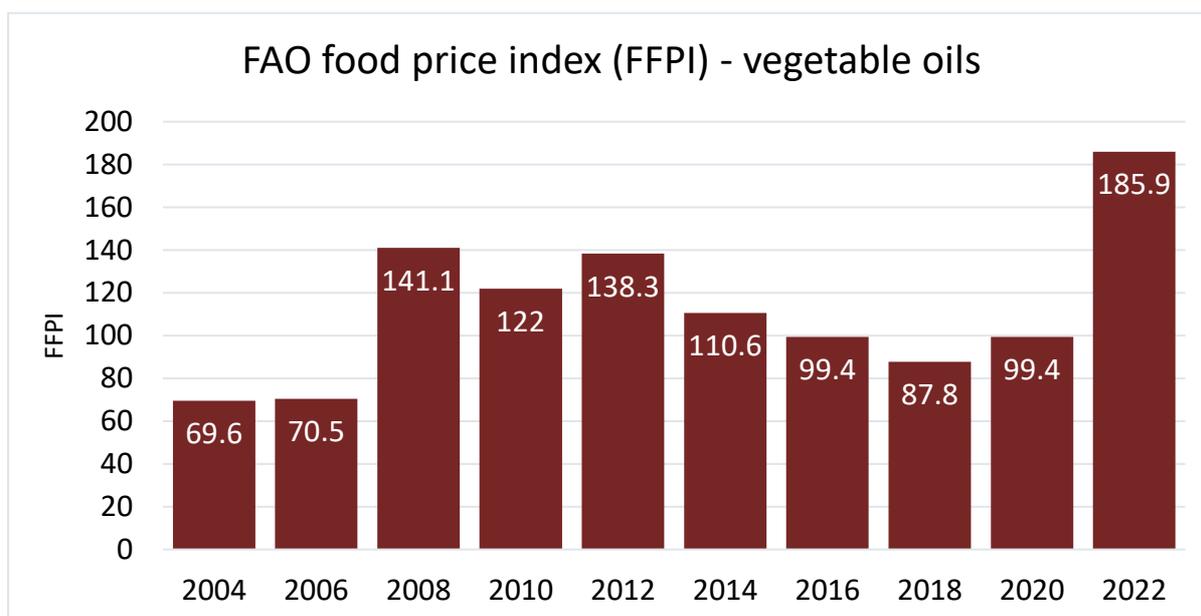


Figure 1. FAO food price index – vegetable oils – yearly figures (2004 – January 2022)

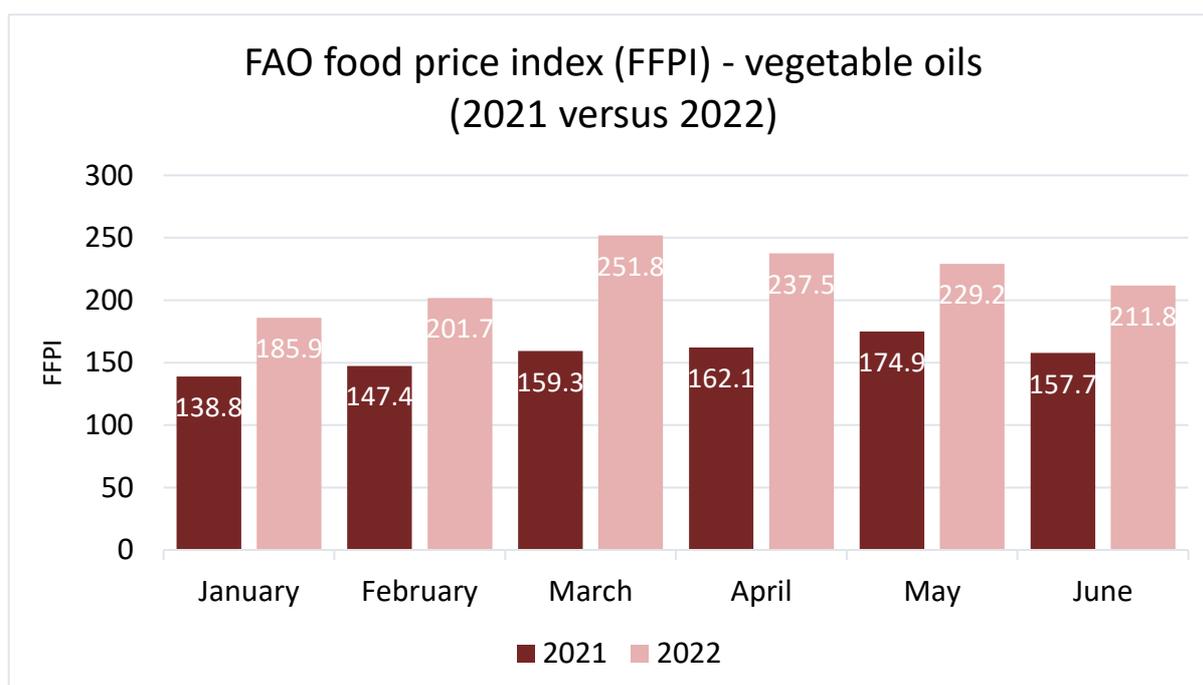


Figure 2. FAO vegetable oil price indices between January and June (2021 versus 2022)

Figure 2 helps to provide a benchmark for price increases of vegetable oils, highlighting the marked increases since January 2022. However, the split between global demand and supply of different vegetable oils is significant, with specific oils having a closer association to the Ukrainian-Russian conflict. Together, palm oil, soybean oil, sunflower oil and rapeseed oil

accounted for 92% of vegetable oils traded in world markets between 2019 and 2021 (see Figure 3).²

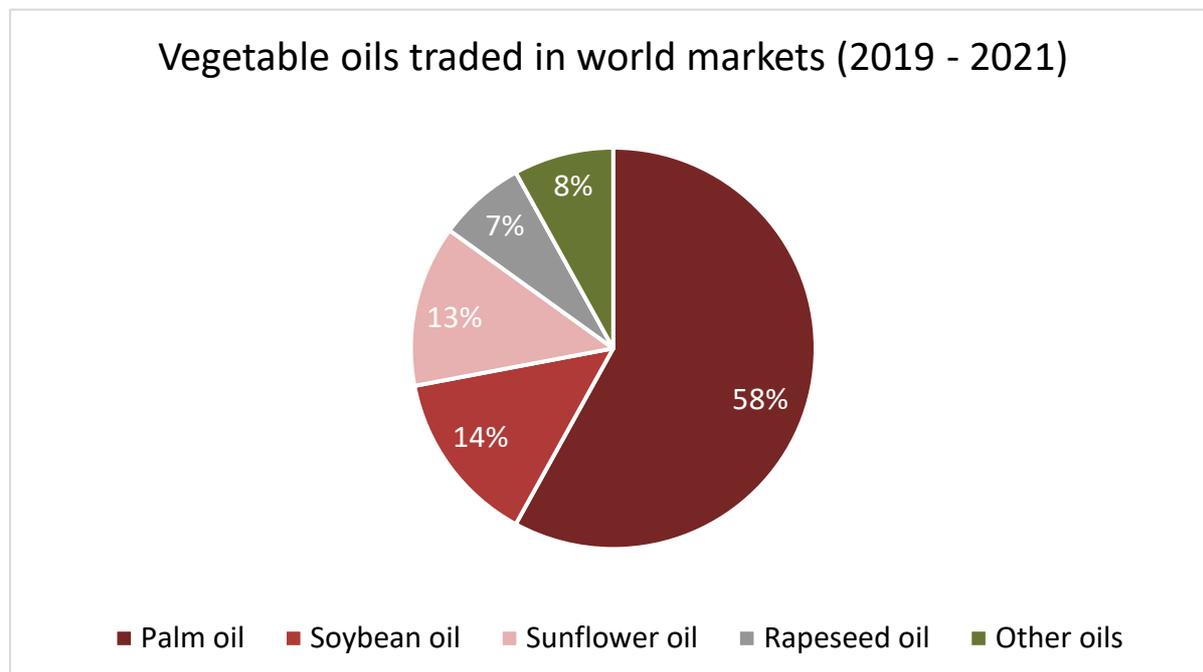


Figure 3. IFPRI percentage share of vegetable oils traded in world markets (2019 – 2020)

In terms of production, the vast majority of palm oil is produced in Indonesia and Malaysia. For sunflower and rapeseed, Ukraine and Russia are globally significant producers and exporters. Respectively, Ukraine and Russia account for roughly 50% and 25% of sunflower oil traded globally, with the UK importing 24% and 3% of its sunflower oil and seeds from Ukraine and Russia respectively between 2017 and 2020. In 2021, this grew to 33% and 6% respectively, making Ukraine the biggest exporter of sunflower oil and seeds to the UK (see footnotes for specific HS codes used in this calculation).³ The rise in imports to the UK demonstrates the UK’s increasing dependence on Ukrainian and Russian vegetable oils. However, it should be noted that there is no available UN Comtrade data for UK specific HS code imports (again, see footnotes) of sunflower oil from Russia between 2017 and 2019. Having this data would provide a more complete picture of the trend in exports of sunflower oil to the UK from Russia over this time period.

3 Ukraine and Russia: the impacts on the vegetable oil market

Where Russia and Ukraine have previously helped nations meet vegetable oil demand as major exporters of sunflower and rapeseed oil, the Ukrainian-Russian conflict continues to weaken the vegetable oil market internationally, and consequently within the UK where imports from

² International Food Policy Research Institute (IFPRI) – <https://www.ifpri.org/blog/impact-ukraine-crisis-global-vegetable-oil-market#>

³ <https://comtrade.un.org/data/> (HS Codes 120600, 151211, 1206, 151219)

Ukraine have been severely restricted. In 2021, Ukraine’s grain and oil export capacities were 7.4mmt/mth (million metric tonnes per month), versus the current approximate capacity of 0.5mmt/mth. Additionally, 98% of export flows were (and continue to be) via Odessa, Mykolaiv and Mariupol Black Sea ports, which have all been severely damaged, cancelling over 16mmt of grain and vegetable oil exports in 2022, while leaving significant stocks from the previous harvest without transport routes. These exports were not set to be shipped directly into the UK, but still reflect the impact the war is having on global vegetable oils trade. Additionally, with roughly 25% of sunflower, 17% rapeseed, and 7% of soybean production areas now sitting within war zones in Ukraine, the availability and supply of these vegetable crops is set to drop even further as planting continues to be impacted.⁴

Across the whole EU-28 vegetable oil market, production levels also continue to drop.⁵ Figure 4 references that collectively EU-28 rapeseed monthly crush volumes between January and July 2022 have declined compared to 2019-2021 figures, and sunflower seed crushing still not recovering to 2020 levels following a drop in 2021.⁶ However, against this trend, the volume of soybean crushing is increasing. Up 7.52% in 2021 compared to 2019, the increases in soybean crushing (excluding 2020-2021) argue that supply has been less affected, and that potentially soybean crops could go some way in helping to supplement the supply of sunflower and rapeseed oil within the EU and the UK.

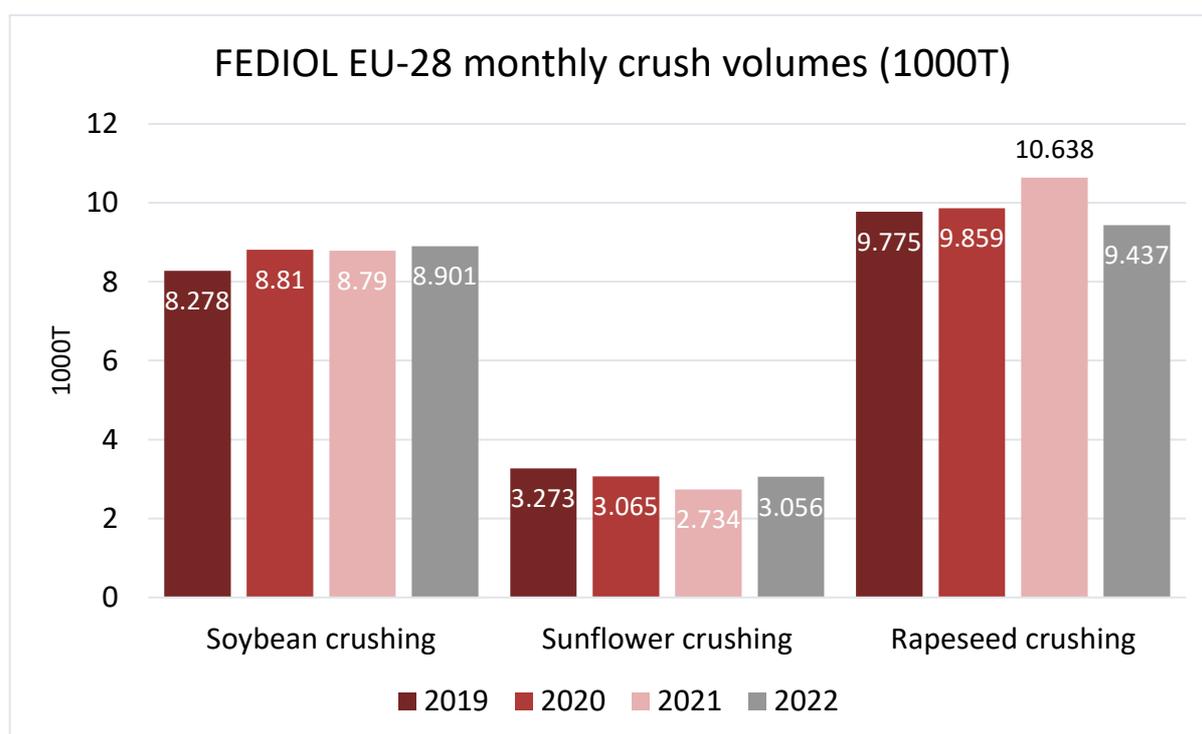


Figure 4. FEDIOL EU-28 annual crush average (January – July)

⁴ <https://tnc.app.box.com/s/6cebk3h97gwr92oft57ezzdgchyr95ro>

⁵ For this analysis it is assumed that FEDIOL data still includes the UK (EU-28) in monthly crush volumes.

⁶ <https://www.fediol.eu/web/fediol/1011306087/list1187970162/f1.html>

As the EU vegetable oil and protein meal industry association, FEDIOL represent the interests of EU oilseed crushers and vegetable oil refiners. Their data represent close to 80% of the total EU-28 crush volumes and, while this data does include direct Ukrainian crushing volumes, the collective drop in crushing volumes also reflects the lack of exports leaving Ukraine and being imported into the EU and UK markets. Figure 5 helps to substantiate this, representing the total crush volumes for sunflower seeds, rapeseed and soybeans versus the EU-28 reported capacity of participating FEDIOL companies' total capacity.⁷ Figure 5 indicates that within the first 7 months of 2022, production of vegetable oils dropped from 22,160T in 2021 to 21,390T.

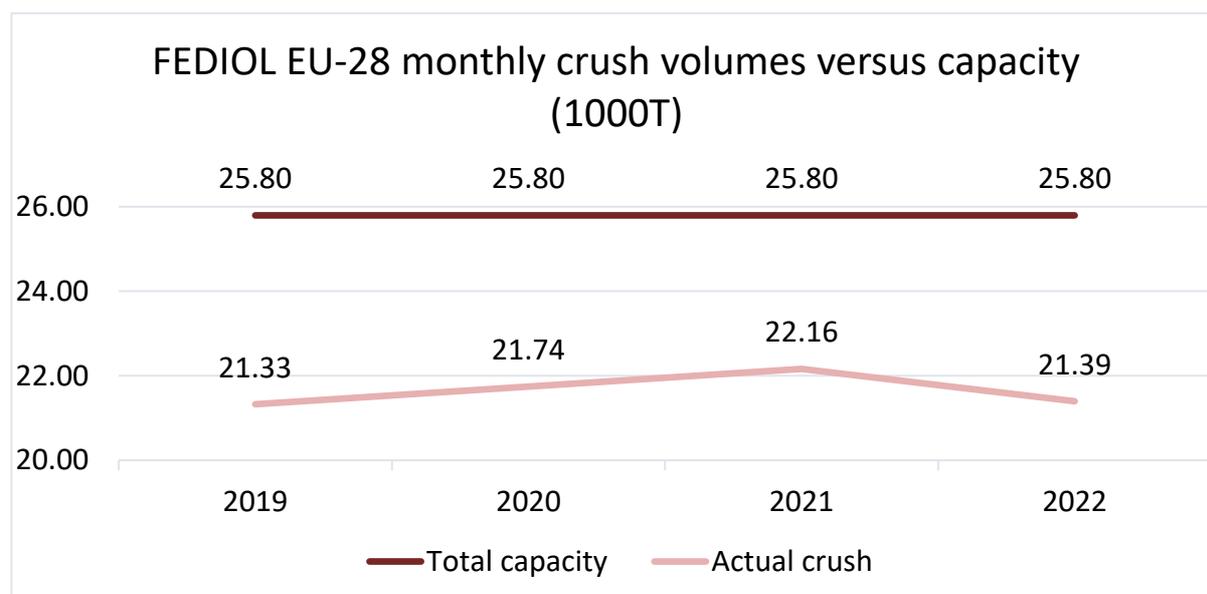


Figure 5. FEDIOL EU-28 annual crush average versus capacity (January – July)

Collectively, the supply squeeze on sunflower and rapeseed oil is getting tighter. While Figures 4 and 5 do not reflect direct vegetable oil production, they help to visualise how the Ukrainian-Russian conflict continues to limit supply in a market where these two economies hold a significant share. The dropping availability of sunflower seeds and rapeseed continues to put upward pressure on prices across Europe. Figure 6 shows average sunflower seed and rapeseed prices in North-West EU ports in Euros per tonne. The data collected highlight average annual prices between 2018 and 2021, and January to July for 2022. Whereas price increases have been previously steady, in the first 4 months of 2022 average prices have already substantially increased, with rapeseed prices increasing by 49.5%, and sunflower seed prices rising by 23.9%. This questions what prices will look like by the end of the year, as there can often be an initial time lag before seeing the full impacts of such market changes. While the prices of rapeseed and sunflower seeds in the EU have increased, this is led by limited production and exports from Ukraine and Russia. The record-high prices are visible within the EU, while the knock-on impacts of the Ukrainian-Russian conflict continue to drive supply downwards and price upwards.

⁷ <https://www.fediol.eu/web/fediol/1011306087/list1187970162/f1.html>

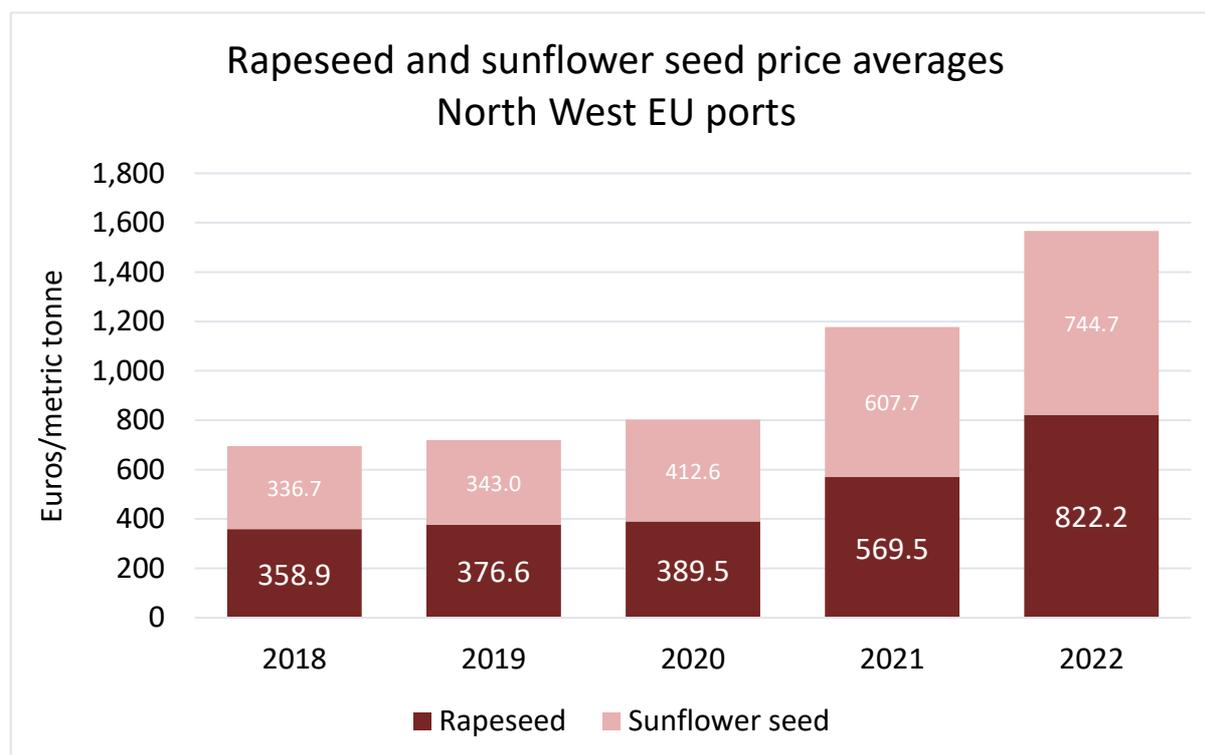


Figure 6. FEDIOL 2018-2021 average prices (EUR/MT), January to July 2022

The already visible switch in production, exports and supply in 2022 versus 2021 represents the continuing consequences of the Ukrainian-Russian conflict, and questions how the UK market will react. With major UK supermarkets temporarily limiting customers' purchases of vegetable oil, and national and international food prices increasing, it raises a question as to how other vegetable oils, such as soybean oil, could offer a partial solution to help supplement supply and lower prices within the vegetable oil market. This will be explored in the following section below.

4 The UK and soybeans

UK market demand for soybean oil has traditionally been low, the market being dominated by sunflower and rapeseed oil. This may be for a number of reasons. Rapeseed is the third most widely grown crop in the UK (2021), following wheat and barley.⁸ Additionally, rapeseed is naturally lower in saturated fats compared to other vegetable oils, with 42.8% less saturated fats than olive oil, 83.6% less than palm oil, and 90.8% less than coconut oil (see Figure 7).⁹ Equally low in saturated fats, sunflower oil is another widely grown crop in the UK vegetable oil market, and is neutral in flavour, highly versatile and stable at high cooking temperatures.

⁸ <https://www.gov.uk/government/statistics/farming-statistics-final-crop-areas-yields-livestock-populations-and-agricultural-workforce-at-1-june-2021-uk>

⁹ US Department of Agriculture (USDA) – <https://fdc.nal.usda.gov/>

Soybean oil imported and sold in the UK that is genetically modified may, depending on its usage as a food ingredient, be subject to labelling requirements that require its GM status to be declared on-pack. Historically this has restricted the use of non-GM soy due to UK customers' preferences. In addition, there remain concerns around the environmental impact of soybean production and the potential association with deforestation and land conversion in South America (including in Brazil and Argentina), which may also limit soybean oil usage in the UK where alternatives such as rapeseed and sunflower oil exist. It is worth noting, however, that, while soybean oil is not widely used within the UK, its chemical composition is very similar to that of rapeseed oil, and therefore more interchangeable if the squeeze on rapeseed oil continues to tighten.

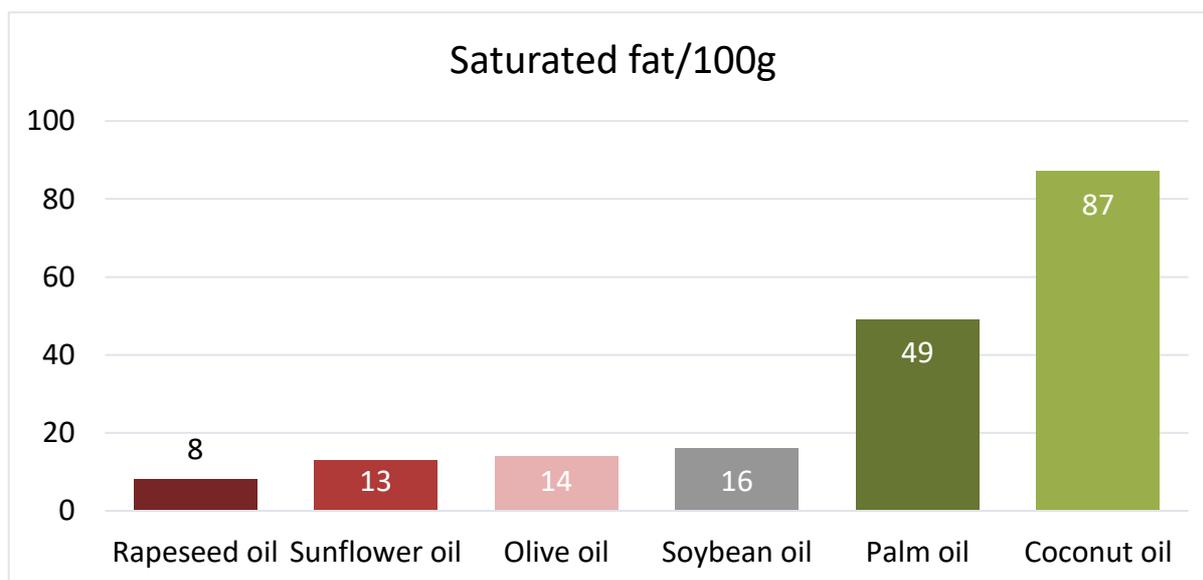


Figure 7. USDA Input Figure and fix surrounding figures

In 2021, LMC International forecasted the future demand of vegetable oil, looking at various markets, and forecasting how trends are set to develop. The forecasts referenced that, between 2020 and 2035, vegetable oil markets will inevitably grow, but the demand for specific oils will change. Figure 8 references LMC data, highlighting the production split between the top 4 vegetable oils in 2020, and the percentage changes by 2035. It is interesting to note that, while the global share in sunflower, rapeseed and palm oil production is set to drop, the demand for and production of soybean oil is set to increase. In 2020, the global production share of soybean oil equated to roughly 32%, but it is set to increase to 40% by 2035, with an annual demand growth rate of 3.5%.¹⁰ LMC argue that this growth will be primarily caused by the expanding renewables and biofuel sector, replacing animal fats, and collectively increasing demand for vegetable oils. However, as a crop, soy produces 4 times more meal than oil from soybeans.¹¹ Again, this reaffirms LMC's forecasts into soybean oil production increasing. If a lower volume

¹⁰ https://www.sustainablepalmoilchoice.eu/resources/uploads/2021/11/James-Fry-Solidaridad-Speech_version211122.pdf

¹¹ <https://www.sustainablepalmoilchoice.eu/our-webinars/> - 'The Vegetable Oil Conundrum'

of oil is produced per hectare of planting (as an example area), the required planting to meet demand by default will subsequently increase too. If the context of the Ukrainian-Russian conflict is ignored, the forecasts argue that availability and supply of vegetable oils predominantly used in the UK is set to decline following market changes. For the UK, this raises questions about the future supply of sunflower and rapeseed oil and, even ‘externally’ to the Ukrainian-Russian conflict, it questions how this switch in production could force an increase in flow of soybean oil into the UK market.

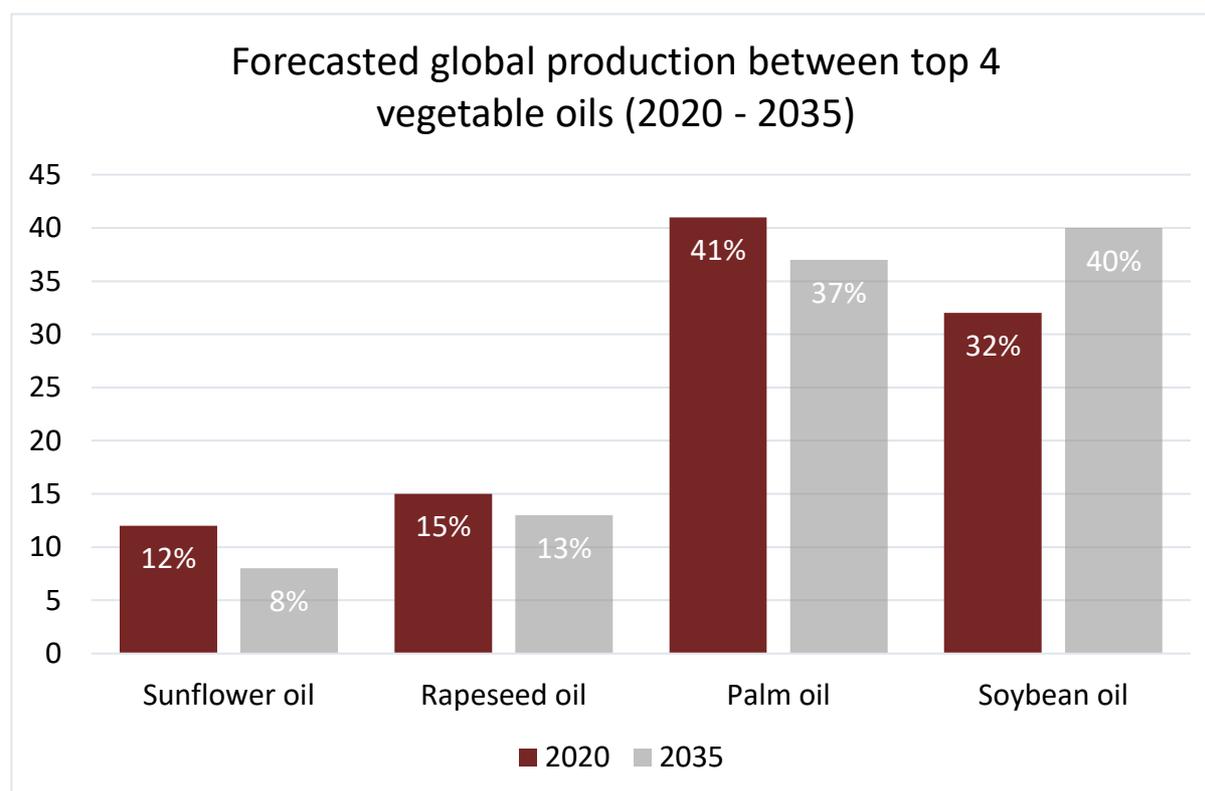


Figure 8. LMC predicted production shares between top 4 vegetable oils (2020 data – 2035 prediction)

Re-applying the context of the Ukrainian-Russian conflict, and the continuing impact the war is having, could mean that while LMC International market predictions remain accurate, the speed at which the forecasts emerge could be increased. Already, across the EU-27, soybean production is set to increase. This is visible in Figure 9, which lists the growing soybean area development from 2013 to 2021, with an additional forecast for 2022. The data references no consistent trend of growth (or decline) between 2013 and 2021, but forecasts that in 2022 soybean crop area in Europe will increase by roughly 13% (see Figure 9). With vegetable oil and seed exports dropping from Ukraine and Russia, the data seems to reflect how the EU-27 market attempts to supplement demand by increasing national production. It is also worth noting that, while the LMC International data above forecasts global increases in soybean oil production, Figure 9 focusses on increased production in the EU, having a much lower risk of deforestation and conversion versus soy produced outside of the EU.

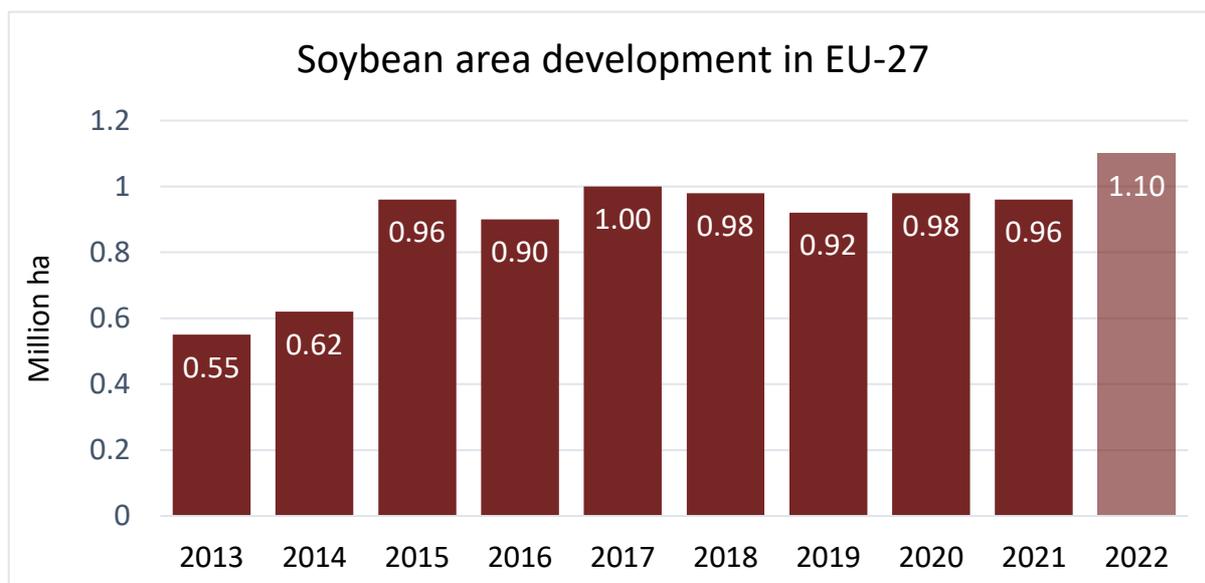


Figure 9. Austrian Development Agency and Europe Soya, soybean area development trend and 2022 forecast

Additionally, if the collective market trends are set to switch to an increase in production and supply of soybean oil, and the Ukrainian-Russian conflict may increase the speed at which this happens, it thus questions whether the UK vegetable oil market will experience this switch too.

5 Sustainability and soybeans

Whereas this briefing has primarily focussed on the collective market impact of the Ukrainian-Russian conflict, this next section seeks to analyse some of the potential environmental consequences of switching to soybean oil from sunflower or rapeseed oil. If the supply of sunflower and rapeseed oil were to decrease, and market predictions suggest that soybean oil is set to increase in demand, then understanding how an increased flow of soybean oil into the UK market will impact different retailers, suppliers and manufacturers' sustainability policies is key.

Figure 10 depicts the split between the top 4 major vegetable oils and their efficiency footprint, referencing the land area needed to produce 1 tonne of oil and the volume of oil produced per hectare.¹² Figure 10 also indicates that soybean oil has the least efficient vegetable oil footprint compared to palm, rapeseed or sunflower oil, requiring the largest land area to produce 1 tonne of oil, and producing the least oil per hectare. On this basis, it could be argued that soybean oil compares less favourably to palm oil as a potential substitute for sunflower and rapeseed oil, to meet vegetable oil demand in the UK. However, the fact that the chemical composition of rapeseed and soybean oil is similar could provide an advantage in using soybean oil instead of rapeseed or even sunflower oil due to the current market circumstances. For retailers, suppliers

¹² Meijaard, E. et al. (2018). Oil palm and biodiversity. A situation analysis by the IUCN Oil Palm Task Force.

and manufacturers having the ability to swap to an alternative vegetable oil that has similar chemical properties and is already used widely within the UK increases its desirability, potentially outweighing any concerns into the efficiency of soybean oil.

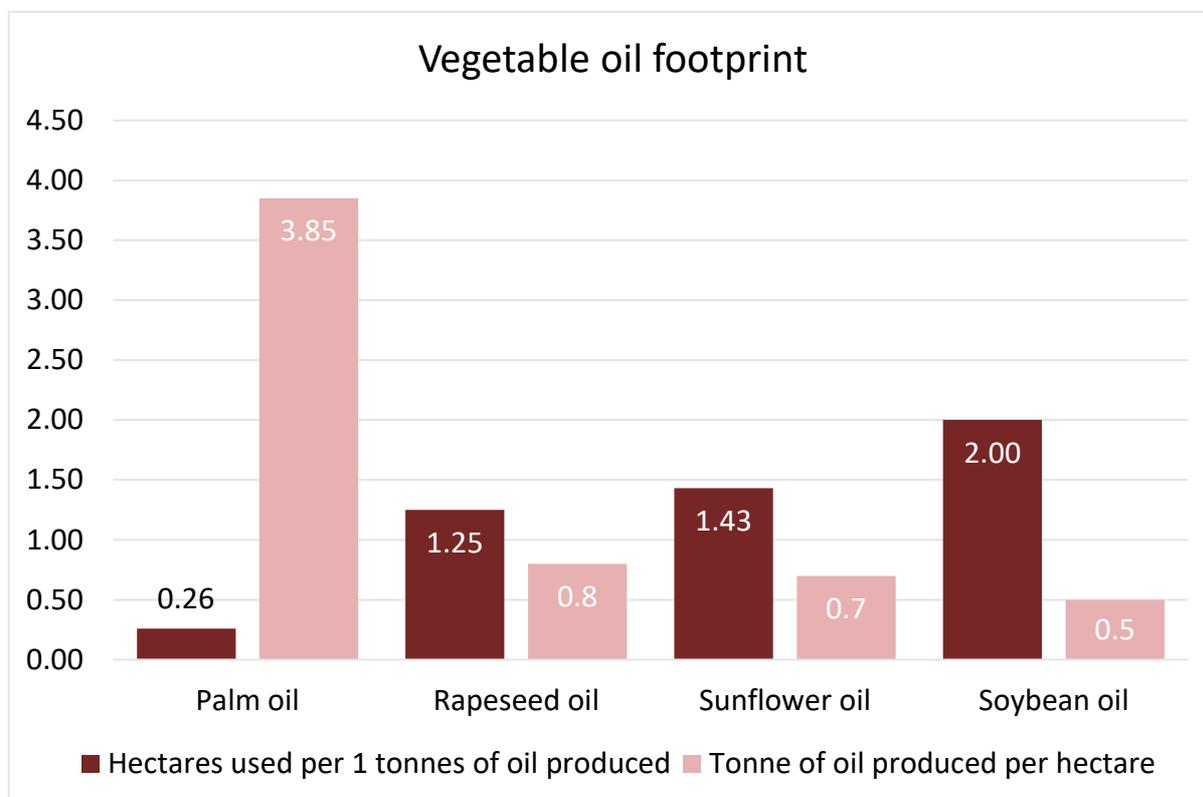


Figure 10. Different vegetable oil footprint split

While Europe and Asia both grow soy, production is largely split between the USA and Brazil, both holding significant shares in global production. However, while these nations hold large shares in production, exports do not necessarily parallel this. For example, the USA are growing and producing large quantities of soy, but also consume a lot of their soy internally. Unlike the palm oil market, where Indonesia and Malaysia account for 83% of palm oil production and 86.9% of exports globally, the soybean oil market reflects a more diversified market with multiple nations holding significant shares in exports.^{13,14} For the UK, this offers an opportunity to source and import soybean oil from locations suited to the UK market. In line with this, Figure 11 shows that the UK is primarily importing soybean oil from the EU and Russia (Russian Federation), specifically from the Netherlands (76%), France (7%) and Spain (6%).¹⁵ With the UK representing less than 1% of the world’s global soy consumption, the volumes of soybean oil

¹³ <https://efeca.com/wp-content/uploads/2021/12/UK-RTSSPO-APR-2021-final.pdf>

¹⁴ Oil World data 2022, Indonesian and Malaysian palm oil exports.

¹⁵ <https://comtrade.un.org/data/> – Soybean oil listed in HS code description only (HS Codes 1507, 150710, 150790).

imported into the UK from the EU and Russia are very limited if compared with global trade flows.¹⁶

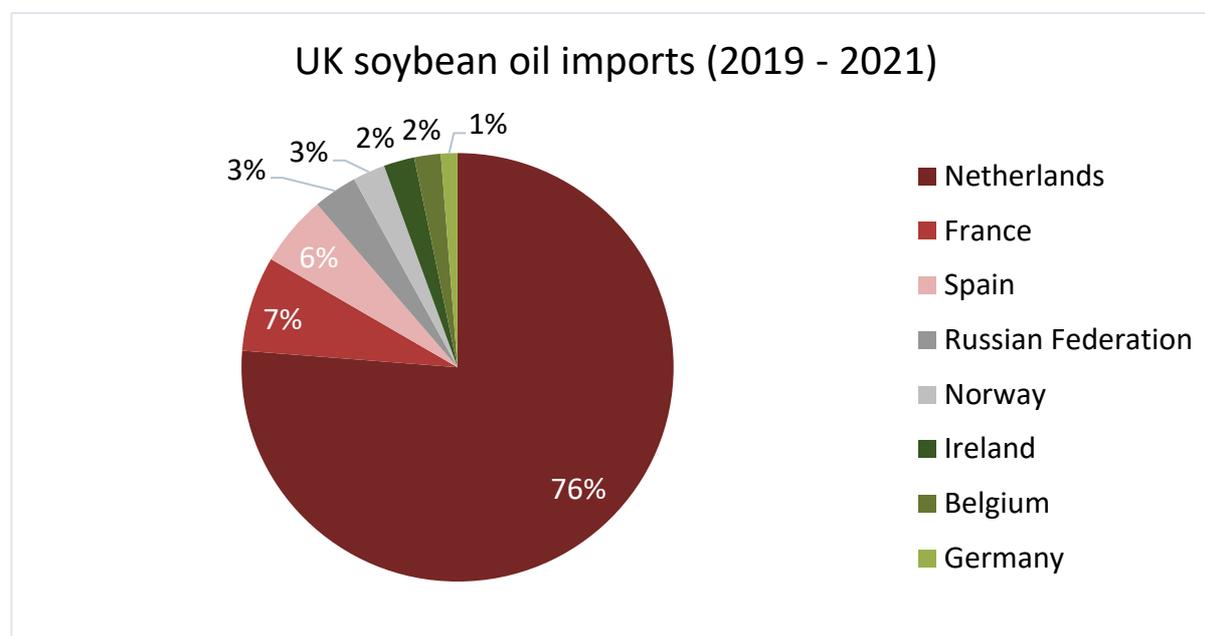


Figure 11. Direct UK soybean oil imports (2019 – 2021) UN Comtrade data

However, while the UK is importing directly from the EU and Russia, it is worth noting that, although there is some soy production at the European level, these European countries mainly import soy from other countries outside of Europe.

Soybean oil may provide an opportunity to supplement falling supplies of other vegetable oils, in part because of its chemical similarity with rapeseed oil, but also the variety of sourcing options available. There remain concerns around the environmental sustainability of soy production, though this is an area that the UK has been acting on for a number of years through a number of initiatives.

The UK Roundtable on Sustainable Soya is a government funded, industry led initiative, seeking to help increase the uptake of sustainable soy within the UK market. The initiative supports UK companies transition towards deforestation and conversion free soy supply chains, with the goal of increasing the volumes of sustainable soy entering the UK year on year. Figure 12 references the continued progress of the UK Roundtable on Sustainable Soya since its launch in 2018, with annual increases in the volumes of sustainable soy entering the UK and greater understanding of where the UK is importing its soy from.¹⁶ Beyond this, the initiative now collaborates across different consumer markets in Europe to increase the alignment on policies and guidance that support deforestation-free soy.

¹⁶ <https://www.efeca.com/wp-content/uploads/2021/12/UK-RTSS-APR-2021.pdf>

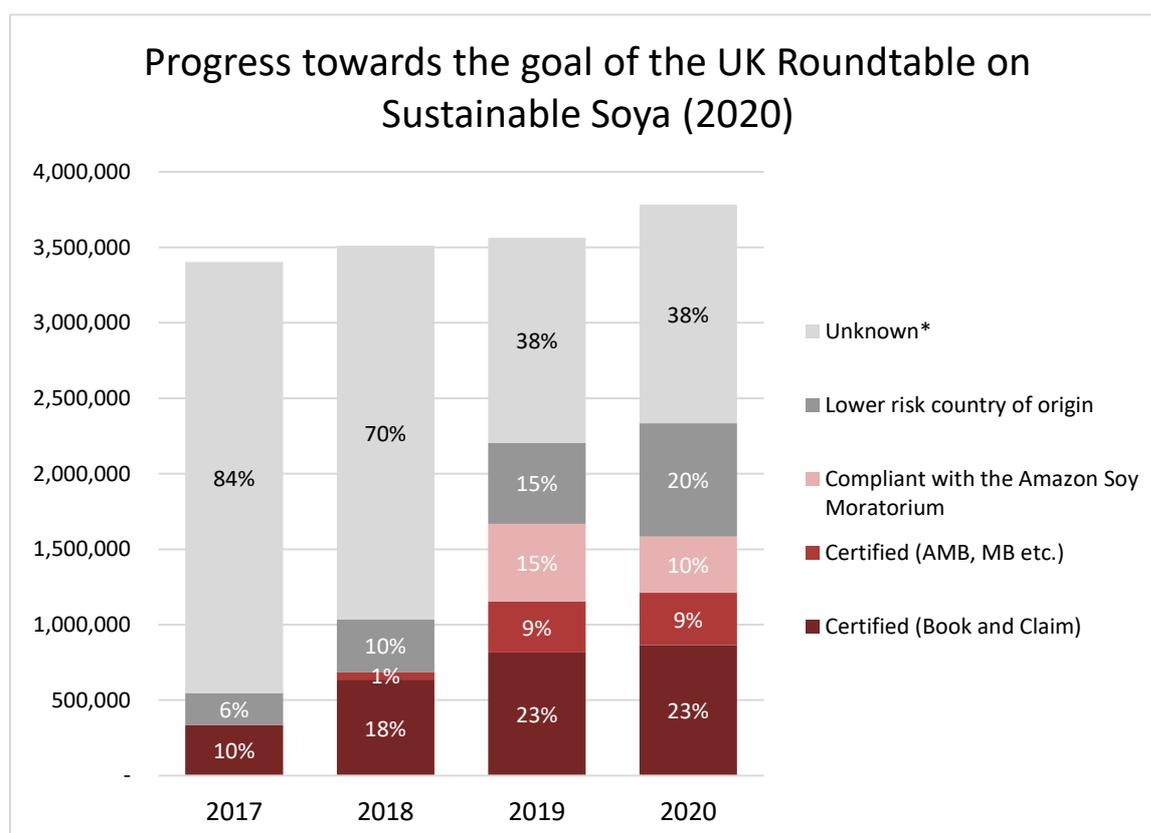


Figure 12. Progress towards the goal of the UK Roundtable on Sustainable Soya (2020)

More recently, the UK Soy Manifesto was launched in November 2021. Signatories of the UK Soy Manifesto committed to working together to ensure that, by 2025, any soy entering UK supply chains will be deforestation and conversion free. UK Soy Manifesto signatories currently represent approximately 60% of the UK's total soy consumption.

These UK based initiatives also collaborate with the network of European National Soya Initiatives (ENSI), a group formed from several European initiatives – the UK, France, the Netherlands, Denmark, Sweden, Germany, Norway and Austria – coming together to exchange learnings and support a consistent European market signal on sustainable soy. Equally, for individual companies or groups, international initiatives offer additional guidance, and align with wider market commitments, including the Accountability Framework initiative (AFi).

6 Conclusion

This briefing note has explored the vegetable oil market, looking at prices and production, how these have been impacted by the Ukraine-Russia war, and implications for the UK market for these oils. It also looked at the role soybean oil may play in providing solutions to the current challenges within the vegetable oil market.

The briefing has highlighted that the war between Ukraine and Russia (both globally significant producers and exporters of rapeseed and sunflower oil) has led to a reduction in the availability

of these oils and, as a consequence, an increase in prices to record market highs. This situation, which is not likely to be resolved while the war continues, is set against the backdrop of a fall in production levels for vegetable oils across the whole EU-28 vegetable oil market in the last year, causing further price pressures on the market. Looking ahead, up to 2035, the forecasts are for global vegetable oil demand to continue to grow with the greatest increase in demand projected to be for soybean oil.

The implications for the UK market, which is heavily reliant on sunflower and rapeseed oil, has been significant, with major UK supermarkets temporarily limiting customers' purchases of vegetable oil. Looking forward, soybean oil may provide at least a partial solution to alleviate supply and pricing pressures for the UK vegetable oil market. It can provide a functional alternative to other vegetable oils (for example it is chemically very similar to rapeseed oil) and has a low saturated fat profile relative to palm oil.

There remain concerns, however, regarding the environmental sustainability of soy versus sunflower and rapeseed oil from a land use efficiency and land use conversion/deforestation perspective that the market will need to consider in looking at soybean oil.