

# If food is getting scarce, why are farm prices so low?

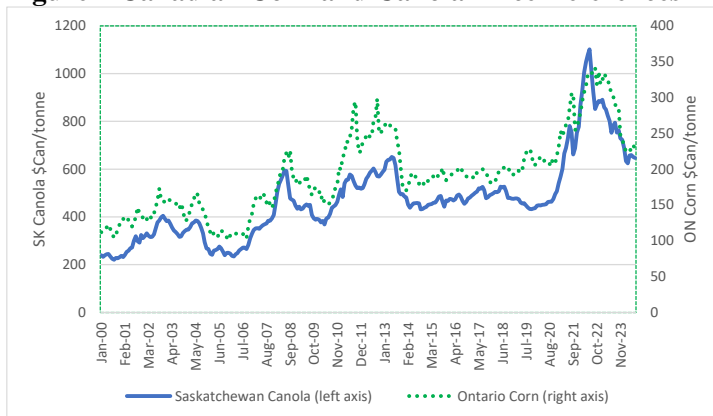


**Independent Agri-Food Policy Note**  
**November, 2024**  
*Al Mussell, Douglas Hedley and Ted Bilyea*

## The Issue

Farm prices in 2024 are lower, down from much higher levels that peaked in 2022. Figure 1 below provides an illustration using Saskatchewan canola and Ontario corn. The trends are remarkably uniform, with prices decreasing since 2023.

**Figure 1 Canadian Corn and Canola Price References**



Source: Statistics Canada Table 32-10-0077-01 Farm product prices, crops and livestock

Canadian crop price trends are consistent with those experienced in the US- to which they are intrinsically tied through price reference and market arbitrage. Over the last year, new crop 2024 soybean futures lost over \$US 3/bushel before establishing a plateau, and new crop corn futures lost just over \$US 1/bushel before finding stability. The Purdue University-CME Group Ag Economy Barometer measures US farmer sentiment at its lowest level since 2016.<sup>1</sup>

These trends are not indicative of scarcity or weakness in supply; they are more suggestive of supplies being very ample or surplus relative to demand, and worries of low farm prices. According to USDA estimates, US corn

**Figure 2 Chicago New Crop 2024 Soybean and Corn Futures Prices**



Source: Chicago Mercantile Exchange

production in 2024 is expected to be the second largest record, which follows on record production in 2023. US soybean production in 2024 is expected to be a record crop.

But elsewhere, a very different perspective emerges- one of worry regarding the security of staple foods and shortness of supply and stocks. For example, in the communique from its most recent meeting (June, 2024) the International Grains Council stated “World grains production was predicted to expand by a further 1% y/y, in 2024/25, to 2,312m t, as larger wheat, barley and sorghum outturns potentially contrast with a reduced maize crop. With consumption seen edging up, end-season stocks were projected to tighten, to a

<sup>1</sup> <https://ag.purdue.edu/commercialag/ageconomybarometer/>

decade low, including a reduction in major exporters. Traded volumes in 2024/25 (Jul/Jun) were predicted to contract by 4% y/y, to 416m t.” The September 2024 USDA Grain: World Markets and Trade report envisages similar trend. For 2024/25 (June-May crop year) global outlook envisions wheat and rice production up, corn production down, but storage stocks falling for wheat and corn, and falling slightly for rice. In a 2022 paper, Carl Zulauf observed that since 2000, the world has increasingly needed conversion of land into agriculture to keep pace with increasing consumption, as growth in global yields has been insufficient.<sup>2</sup>

These indicators are not indicative of burdensome supplies, nor of low or lower grain prices.

Moreover, some countries have invoked trade policy measures against exports of grains, oilseeds, and staple foods out of concern for ample supplies for the domestic market. Figure 3 provides an illustration for corn, based on recent work by the OECD.<sup>3</sup> A number of countries enacted corn export restrictions during the 2007-13 commodity price boom. The policy measures included export bans, export quotas, export taxes, and export licensing. Many of the measures have been newly enacted or re-enacted, and enacted by a broader cross-section of countries- including some major corn exporters such as Argentina and Ukraine, and major producers such as China.

Figure 11 at the end of this note provides a longer-term empirical context, based on total global grains data compiled by the International Grains Council for 2015/16 up to the present. Total global production of grains has been broadly increasing, but increasing consumption has more than kept pace, mostly preventing the buildup of stocks. Production exceeded consumption in 2015/16, 2016/17, and 2021/22; for all of the other years in the period, including the most recent estimates and forecasts, global consumption exceeds production. As a consequence, stocks have not increased. In the face of adverse climate impacts on agricultural systems, especially in equatorial parts of the world, logically we

<sup>2</sup> Zulauf, C. “The World’s Increasing Need for Cropped Land.” farmdoc daily (12): 173, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, November 16, 2022.

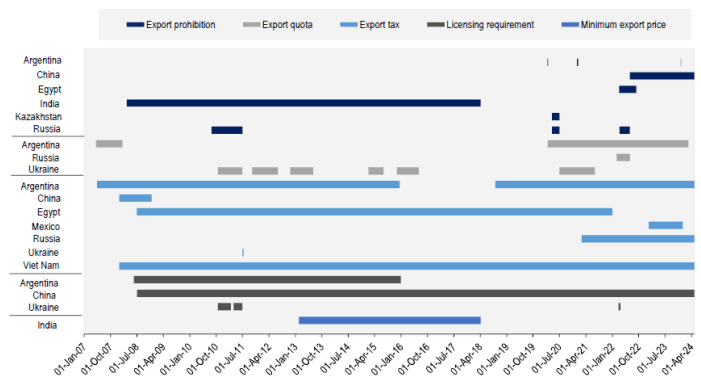
would be building global stocks as a hedge; but this has not occurred.

The standard price reference for global grains and oilseeds is the Chicago futures market- by virtue of the size of the US in agricultural commodity markets, and the depth of liquidity present in the Chicago futures markets to effectively determine prices.

So, when Chicago future prices are sharply lower, how is it that we have scarcity?

This policy note explores the apparent contradiction between the market signals being experienced in North America, and different signals from global markets and policy signals. It proceeds with a focus on the US as the effective price setter in the North American market and the price reference for spot markets in Canada.

**Figure 3 Export restrictions on corn, January 2007 to April 2024**



Note: Figure excludes mixed commodities and only considers those measures that were introduced from 1 January 2007 onwards. Source: OECD database on export restrictions on staple crops.

## Brief Market and Policy Background

A major international bull market in grains and oilseeds began in 2007 and lasted essentially until 2013/14. It had a number of features and potential proximate causes:

- Sharp increases in global fossil fuel prices

<sup>3</sup> Export Restrictions in Staple Crops Since 2007: An Overview based on the OECD Database on Export Restrictions on Staple Crops

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- Shifting international agricultural policies supporting the manufacturing of fuel ethanol from grains, and bio-based diesel from animal fats and oilseed crops
- Increasing consumption and resulting import demand, especially by China
- A major drought in the US Midwest that impacted the 2012 crop

The years following 2014 saw grain and oilseed prices slip back to a more “normal” range.

In 2018, the US initiated trade policy actions to limit its imports of steel and aluminum from a number of exporters, notably China. China responded by placing retaliatory duties on a wide swath of US exports of foodstuffs, especially soybeans, and by much more actively recruiting crop production and investing in logistics and handling facilities in rival exporting countries, especially in South America. In turn, the US introduced the Market Facilitation Program to cushion the impact of China’s retaliatory duties on US producers, and it initiated the US-Japan Trade Agreement that expanded US agri-food market access to Japan.

It was also in this period that rapid expansion in renewable diesel manufacturing began in the US, facilitated by blend mandates and tax credits from the US EPA, and the California Low-Carbon Fuel Standard. This continues today.

Also in the summer of 2018, China notified that it had cases of African Swine Fever in its pig herd. The ensuing cull to stamp out the disease initially decreased Chinese pork and feedstuff imports, but this was followed by a sharp increase in Chinese pork imports. China’s efforts to control African Swine Fever have since entailed repeated gyrations in its pork and feedstuff markets, and its imports have been impacted accordingly.

In early 2020, the US and China concluded a Phase 1 trade agreement under which China agreed to minimum purchase values of agri-food and seafood products of \$US 80 billion

<sup>4</sup> <https://www.piie.com/research/piie-charts/us-china-phase-one-tracker-chinas-purchases-us-goods>

over two years. Accordingly, US agri-food exports to China increased in 2021 and were also high in 2022, but estimates by the Peterson Institute for International Economics show that actual trade fell short of this target.<sup>4</sup>

The Covid-19 pandemic, especially in 2020-22 contorted both domestic and global agri-food markets, as the food service industry temporarily collapsed, food processing was greatly affected by employee contact restrictions and a fluid situation of shifting customers, and international agri-food trade dealt with a whipsaw of demand pulses, limited logistical capacity, and lockdowns. A range of support programs were offered to producers, such as the US Coronavirus Food Assistance Program.

The Russian invasion of Ukraine had the effect of damaging Ukrainian agri-food production infrastructure, and constraining Ukrainian grain and oilseed exports through the Black Sea. This triggered fears of regional shortages of wheat, corn, sunflower, and other farm products, triggering rapid rises in prices, especially through mid-year 2022. International effort to reopen Black Sea navigation for agri-food cargoes and abating threats of Russian attack have since facilitated Black Sea navigation from Ukrainian ports, and prices of major grains and oilseeds have softened, starting in fall 2023 through to the summer of 2024. Ukrainian exports have been remarkably resilient but remain below pre-invasion levels.

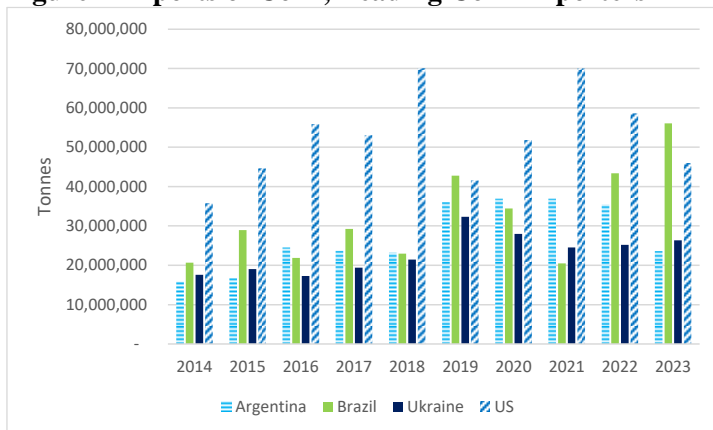
Agri-food products have also proven to be the target of choice for retaliation in trade disputes and in geo-political tensions. Major Canadian canola exporters experienced limitations on canola exports to China following the Meng Wanzhou affair; Australia was confronted with a barley dumping dispute initiated by China following diplomatic tensions between China and Australia (only recently resolved). In September, 2024, China notified Canada that it was initiating a dumping investigation of Canadian exports of canola to China, apparently in retaliation for Canada placing tariffs on imports of Chinese electric vehicles and steel. When the EU recently placed tariffs on Chinese electric vehicles, China retaliated against French brandy.

## Shifting Trade Flows

The pronounced market and policy changes since 2014 described above have markedly influenced supplier and customer relationships and the flow of staple agri-food products in the world.

The US has historically been the dominant exporter of corn; however, this is changing. Figure 4 provides some evidence based on the top four international corn exporters- Argentina, Brazil, Ukraine, and the US. The US was the largest corn exporter since 2014, except for 2019 and 2023. US corn exports ranged around 50 million tonnes between 2016 and 2020, before increasing in 2021 and 2022, consistent with the US China Phase 1 Agreement.

**Figure 4 Exports of Corn; Leading Corn Exporters**



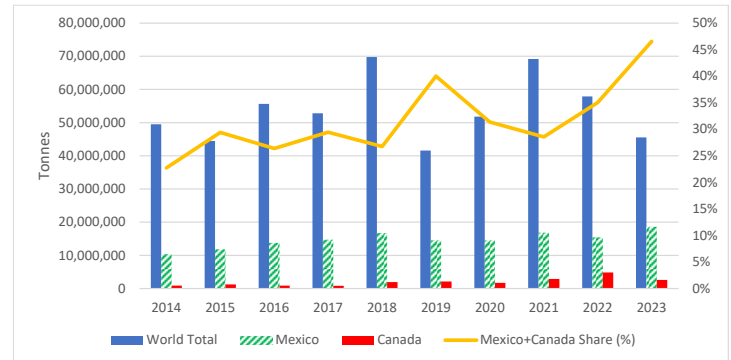
Source: UN Comtrade

US corn exports were down in 2023. Meanwhile, corn exports of the other major exporters have increased markedly- between 2014-2023 corn exports from Brazil almost tripled; corn exports from Argentina more than doubled; and Ukraine corn exports almost doubled between 2014-2019 before decreasing to a steady level ranging around 25 million tonnes. Other major corn exporters are increasing exports, while the US is not.

Moreover, US corn exports are increasingly staying close to home in the North American market. This is illustrated in

<sup>5</sup> USDA Oilseeds: World Markets and Trade, October 2024

**Figure 5 Total US Exports of Corn; US Exports of Corn to Mexico and Canada**



Source: USDA Foreign Agricultural Service GATS

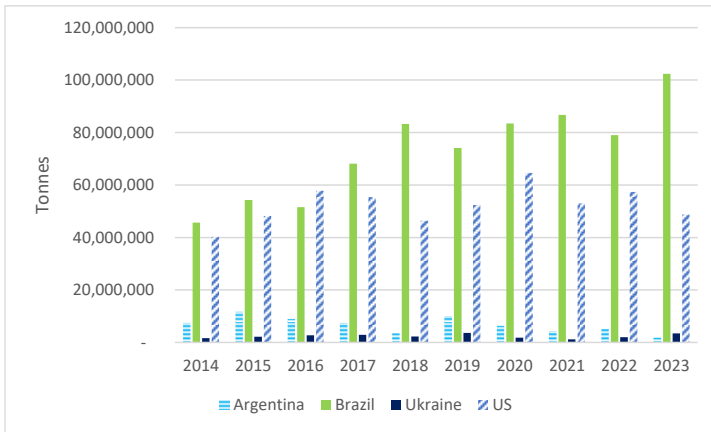
Figure 5, which plots total US corn exports, US corn exports to Mexico, and US corn exports to Canada. As can be seen, US corn exports are increasingly destined for Mexico, and to a much lesser extent, Canada. The combined share of Canada and Mexico as export destinations of US corn has increased, recently up to 47 percent of total US corn exports.

The US is also a major exporter of soybeans, among few others. Figure 6 provides an illustration. Since 2014, Argentina has not increased as a soybean exporter, consistent with mandated export limitations on soybeans and its tradition of exporting soybean oil and meal in lieu of soybeans. Ukraine is a small but growing exporter of soybeans. Early in the previous decade, the US was vying with Brazil as the largest soybean exporter. Since then, US soybean exports have ranged around 50 million tonnes; meanwhile, Brazil's soybean exports have essentially doubled, recently to over 100 million tonnes.

But the US soybean production is not decreasing. The soybean crush is increasing (there was a record crush in 2023/24), soybean oil exports are decreasing, and soybean meal exports are increasing.<sup>5</sup> The apparent explanation for this is rapidly increasing demand for fats and oils in manufacturing renewable fuels, especially renewable diesel.



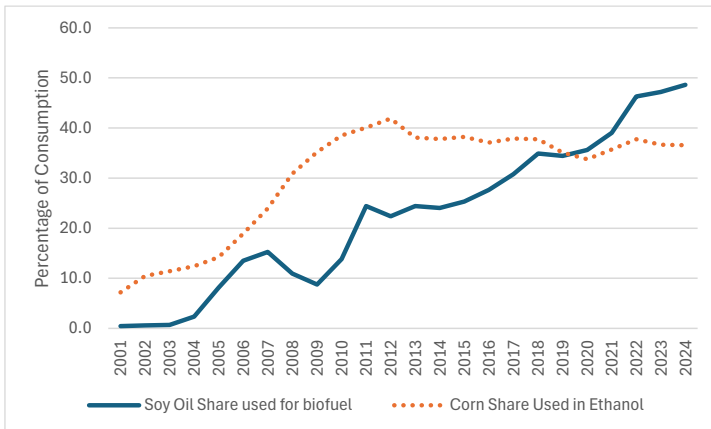
**Figure 6 Exports of Soybeans; Leading Exporters**



Source: UN Comtrade

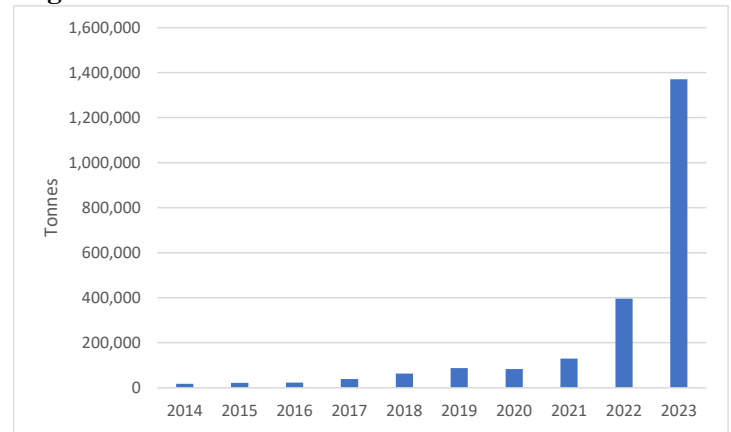
This is illustrated in Figure 7 below, which plots the share of US soybean oil used in biofuel production relative to the share of US corn used in ethanol manufacturing. Corn used in ethanol has been steady at just under 40 percent of US corn disappearance since the early 2010's; US soybean oil consumed in biofuel has been almost steadily increasing, and recently represents almost half of US soybean oil disappearance. This has occurred despite surging US imports of used cooking oil also used in renewable diesel manufacturing, and to backfill for soybean oil used in biofuels (Figure 8).

**Figure 7 Shares of US Corn and Soybeans Consumed in Biofuel**



Source: USDA ERS Oil Crops Yearbook and ERS Oil Crops Outlook reports.

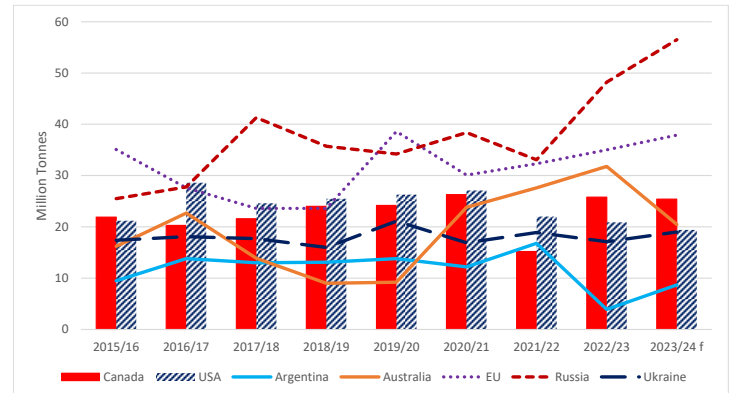
**Figure 8 US Imports of Used Cooking Oil, Fats, and Vegetable Oils**



Source: USDA FAS GATS Database, HS 1518- Animal or Vegetable Fats, Oils And Their Fractions

The US is also a major wheat exporter, but it is not growing in the international market. Figure 9 provides some perspective based on major wheat exporting countries. US wheat exports have ranged around 25 million tonnes; but this has been in long-term decline. The growing wheat exporters are Russia and Australia, and also the EU (with an understanding that much of the EU exports are actually intra-EU trade). Moreover, US wheat production has been in a downtrend since 2019/2020 (but with some reversal in 2023/24)- and the share of US wheat exported has been declining.

**Figure 9 Wheat Exports by Major Wheat Exporting Countries**



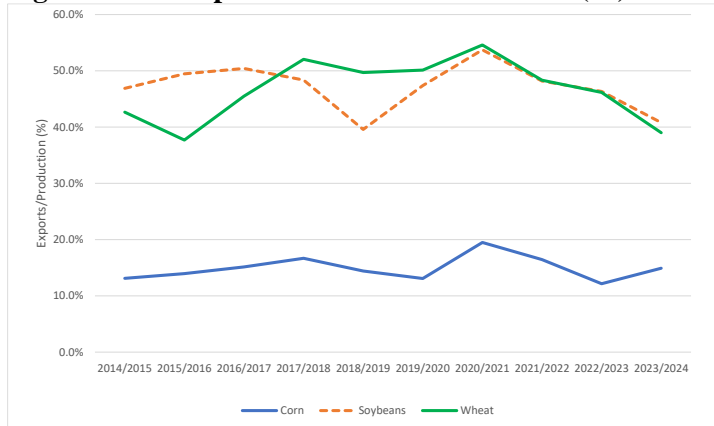
Source: International Grains Council; 2023/24 is forecast

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**Figure 10 US Exports as Share of Production (%)**



Source: USDA FAS Production, Supply, and Disposition database

Figure 10 presents US exports as a percentage share of US production for corn, soybeans, and wheat. It shows that export shares of wheat and soybeans have been much higher than for corn- which has been stable at around 15 percent of the US corn crop. Soybeans and wheat export shares are clearly declining. This is consistent with an increased crush and biofuel use of soybeans, and greater domestic utilization of wheat.

## US Grain and Oilseed Markets Exposed to Narrower set of Market Forces

The view that emerges is that US grain and oilseed markets have become less exposed to broader international supply and demand than has previously occurred. Stated differently, the US has become more domestic or North American market focused over time.

There are a number of plausible explanations for this evolution. It reflects the effect of industrial policies linking US farm products to energy and US climate objectives, such as renewable diesel that now represent major markets for farm products. Geo-political rifts have opened up with countries that were historical US export customers, such as China in soybeans. It also reflects the effect of new competitors in what were traditionally US-dominated export markets, and these competitors successfully competing with the US for market share. In turn, it reflects the expansive use of agricultural policy instruments by the US to offset the

above effects. Deficiency payment schemes to producers, such as the Market Facilitation Programs have been used to offset the adverse effects of export markets lost. New *ad hoc* trade initiatives have been pursued to recoup or protect selected foreign markets, like the US-Japan Agreement.

The effect is to insulate US supply and demand from some of the reverberations of global market, including the signals from elsewhere that the world is short. It also orients US grain and oilseeds more toward mature and slow-growing markets, with notable exceptions (Mexico). Policy-driven markets with established mandates associated with renewable fuels are major portions of US soybean and corn markets.

For Canada, which has the overwhelming majority of its farm products arbitraging with US markets, and for whom US futures markets are the fundamental means of price discovery, this represents two specific sources of concern, and a broader source of concern.

First, if US grains and oilseeds are serving a different portfolio of markets than Canada is, then US price references reflect less of the market conditions facing Canada, potentially compromising US futures markets as hedging instruments for Canada, at least over time.

The growing influence of biofuels on grain and oilseed markets illustrates the point. Canada and the US are not aligned on biofuel policy, with the US supporting a more aggressive mandate and industrial development trajectory than Canada. The effect is such that US futures markets factor in the effects of US biofuels policy in the demands for biofuel feedstock crops, which are not the same demands for those same crops for Canada, even if there is arbitrage between US and Canadian markets. US vegetable oil markets which are dominated by a set mandate for renewable fuels do not pickup the nuances of canola oil demands in south Asian markets and risks/opportunities in these markets served by Canadian exporters.

Secondly, arbitrage between the US and Canadian markets will tend to take Canada down the same street as the US, toward more mature and policy-driven markets. Two currents are taking us down this path, both illustrated by canola.

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In an insightful June, 2024 USDA-FAS International Agricultural Trade Report<sup>6</sup>, Timothy O’Neil notes that “In December 2022, the Environmental Protection Agency announced that canola oil meets the RFS requirements to be used as a feedstock for renewable diesel. As a result, U.S. canola oil imports jumped to a record. While most of this demand was for biomass-based diesel production, some of the increased supplies were used for food, backfilling the displaced soybean oil that had been rerouted to produce renewable diesel. This is unlikely to be a short term spike, as U.S canola oil imports, food use consumption, and industrial consumption are all forecast to be records for the third consecutive year in 2024/25. With a free trade agreement and geographical proximity to Canada, the world’s largest canola/rapeseed oil exporter, the United States will continue to have access to ample supplies. During the past few years, the United States has jumped from accounting for 50-60 percent of Canadian canola oil exports to 91 percent in 2023. Additionally, canola oil supplies should remain robust as Canada announced plans to expand crush capacities in the next several years.”

In other words, US renewable policy is diverting Canadian canola from more consumer-oriented growing export markets to a policy-driven export market characterized by a fixed mandate.

Independent of this, China, which has been the largest importer of Canadian canola, recently launched a dumping investigation against Canadian canola, apparently in retaliation for new duties raised by Canada on Chinese electric vehicles, steel, and aluminum. If this is taken from the same playbook China used with Australian barley, Canada can look forward to a positive dumping finding with material dumping duties, and the need to find alternative markets for existing canola export volumes sold to China. The US market for renewable fuels is an obvious alternative, and one that could handle large displaced export volume. But it represents a shift from a growth and consumer-oriented Chinese market to a policy-driven one in the US.

Finally, and more broadly, North American grain and oilseed prices are not receiving the full depth of market

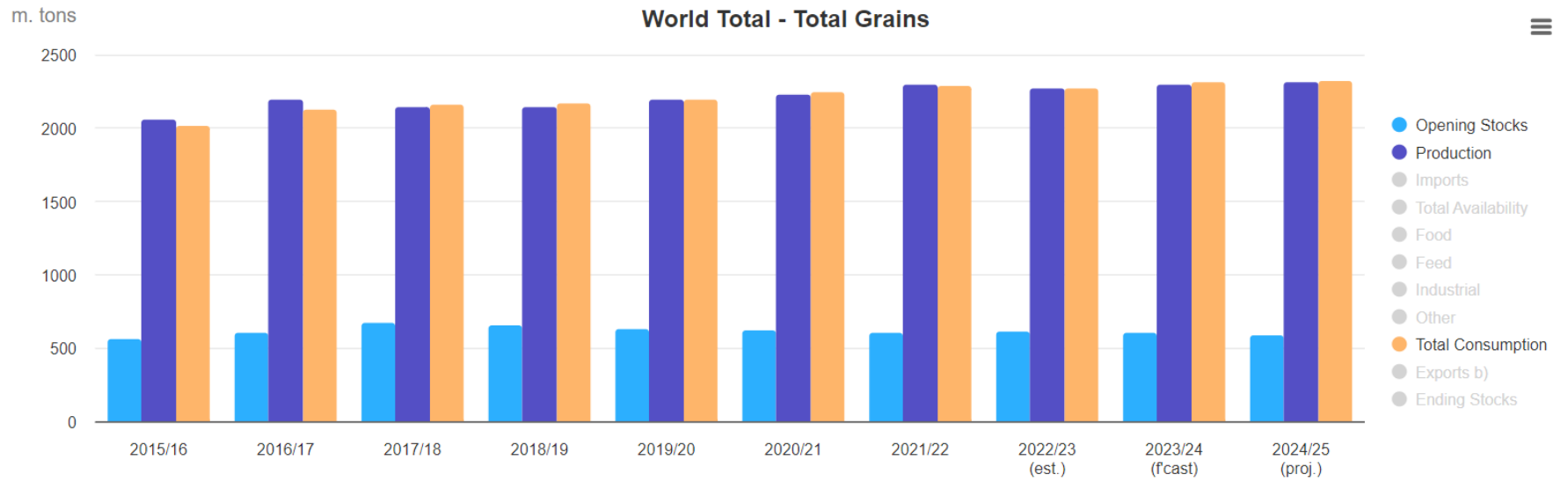
signal from the rest of the world. It has been crowded out by the US marketing its crops closer to home- a sort of “re-shoring”. Through its links to US pricing, it means that Canadian agri-food supply chains do not necessarily get the full clarity of market signals from international markets. Canada has had a portfolio of export customers distinct from the US, making the US re-shoring and the crowding out of market signals more problematic for Canada.

It also confuses the message- is the world short of staple products, even if North America is not? If we are entering a strong trend toward a period of greater global scarcity, as multiple indicators suggest, then as one of the few surplus producers and major net exporters of agri-food products, this is an important issue for Canada- and the wider world.

<sup>6</sup> Timothy O’Neil *U.S. Renewable Diesel Production Growth Drastically Impacts Global Feedstock Trade* USDA Foreign

Agricultural Service International Agricultural Trade Report, June 2024

**Figure 11**



Source: International Grains Council