
Case Study - Impacts of the Chinese Trade Restrictions on the Canadian Canola Industry

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Contents

Case Study: Impacts of Chinese Trade Restrictions on the Canadian Canola Industry	1
Reduced Exports of Canadian Canola Seed to China:.....	1
International Price Comparative Analysis	8
Domestic Price Impacts.....	14
Potential Effects in 2020/21.....	18
Summary.....	19

Case Study: Impacts of Chinese Trade Restrictions on the Canadian Canola Industry

Canola is one of the most important crops in Canada. The vast majority of canola production is exported, either in the form of seed, oil or meal. This makes trade vital for the industry. Any disruptions to market access have negative financial impacts to farmers, grain companies, processors and other industry participants. This study will examine the impact of China restricting canola imports from two large Canadian grain exporters.

In March 2019 China formally restricted canola seed imports from two large Canadian grain exporting companies. The reduced purchases have negatively impacted the Canadian canola industry. This case study will provide an estimate of a range of potential losses during that time. Consideration is given both to lost business to China and the price effect on Canadian canola prices overall.

Framework: Prices are continually responding to multiple influences. In addition, markets are dynamic and quickly adjust to new realities. This makes it difficult to isolate the longer-term value effect of the change of a single market dynamic, even if it's a significant one. However, considering the problem from several angles may allow for some reasonable estimates. This includes considering the direct loss of opportunity from lower export volumes to China, changes in domestic canola prices in Canada, and Canadian canola price behaviour relative to other global locations. Each perspective may be useful in itself, but perhaps even more so when viewed together and considering instances where there may be cumulative and/or offsetting effects.

March 6, 2019 is used as the 'before' and 'after' date. The effects of the restrictions are not static, but rather will change over time as the market adjusts to the new reality. Three different periods will be examined after the restrictions were initially implemented: March 6, 2019 to July 31, 2019 (when restrictions were first implemented to the end of that crop year); September 1, 2019 to July 31, 2020 (the following crop year), and September 1, 2020 to December 31, 2020 (the most recent period). (Note that in some instances prices in the month of August are deliberately excluded since this is a period of market transition between crop years, which in turn may add additional 'noise' into the analysis that is not relevant to the problem being examined. Most futures price comparisons end in late June).

Reduced Exports of Canadian Canola Seed to China:

Canadian canola exports to China essentially 'hit a wall' after the trade restrictions were announced. Volumes have subsequently improved, although still remain below what would have been considered 'normal' prior to the restrictions being implemented.

Estimated volume losses from March 6, 2019 – July 31, 2019

There are two different approaches to estimate the potentially reduced export volumes to China through the balance of the 2018/19 crop year:

- **Actual exports to China relative to expectations:** The 5-year average export volume to China prior to 2018/19 was 4.1 mln tonnes, which is a reasonable reflection of trade expectations prior to the restrictions. (One might argue expectations were higher given that 2017/18 was a record 4.34 mln tonnes, suggesting a growth trend. This may be the case, although the 2018/19 season also saw lower Canadian volumes to a number of other ‘traditionally stable’ destinations, while China also saw a sizeable drop in soybean imports, which might support an expectation closer to the 5-year average). Actual Canadian exports to China ended up at 3.119 mln tonnes, or 981,000 tonnes below what might have been anticipated going into the season.
- **Lower Chinese crush relative to average volumes:** When comparing the average weekly Chinese crush for the Canadian crop year prior to and after March 6 (93,649 tonnes per week vs 55,662 tonnes per week), China crushed 630,000 tonnes less through the balance of the 2018/19 season than what they might have if volumes remained consistent. China’s average weekly soybean crush was also lower from March 2019 through July, although the drop was relatively modest.

China Weekly Crush Volume in Tonnes

Period	Rapeseed	Soybeans
Jan 2018 – Feb 2019	87,276	1,655,926
Aug 2018 – Feb 2019 (avg for season up to disruption)	93,649	1,686,890
Mar 2019 – Jul 2019 (balance of season after disruption)	55,662	1,662,010
Aug 2019 – Jul 2020	44,348	1,702,447
Aug 2020 – Dec 2020	53,649	1,978,109

Source: CoFeed

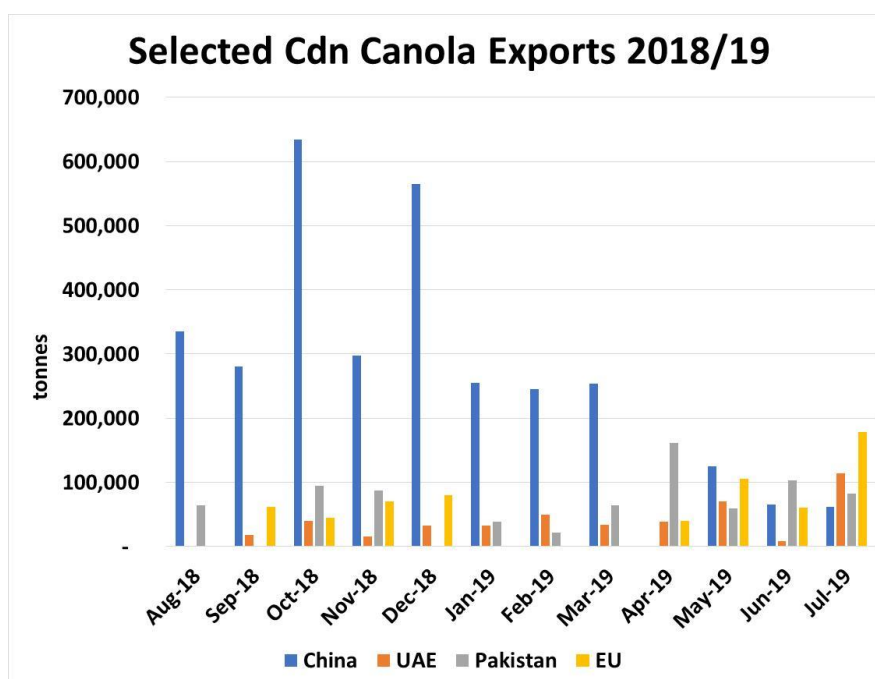
Based on these two perspectives, one might suggest China purchased between 630,000 to 980,000 tonnes less canola from March to July 2019 than they otherwise might have without the disruption.

Offsetting effects for 2018/19

The decline in canola prices and more readily available supplies may have encouraged export sales to other destinations that might not have happened if China continued purchasing in a normal pattern. For example, UAE canola oil exports to China were minimal prior to 2019, and then

increased significantly in the spring of 2019 and beyond. But while Canada's canola seed exports to UAE increased during the post-March 2019 period, volumes were not dramatically higher than the months prior. In addition, there is a lag time between when a sale commitment is made between Canada and UAE for canola and when UAE canola oil ultimately arrives in China, which makes it difficult to determine when UAE oil volumes started to reflect the trade disruption.

Similarly, Canadian exports to the EU increased in the spring of 2019, but they had also already been larger buyers than the previous fall. Pakistan's purchases were a sizeable 407,033 tonnes from March to July 2019. While it's possible it might not have purchased this much without the trade disruption, it had been a significant buyer earlier that fall, and has also been a large importer at other times in the past.



Source: Statistics Canada

In other words, while it is possible some lost Chinese sales were partially made up for by larger sales to other markets, it's difficult to quantify based on export volumes relative to historical buying patterns for this window of time.

Estimated Volume Losses for the 2019/20 Crop Year

Chinese imports of Canadian canola continued to be well below 'normal' through the 2019/20 crop year, totalling just 1.926 mln tonnes. Estimating the actual lost potential volumes becomes more challenging due to further offsetting effects as the market adjusted to the new environment.

What China 'Should' Have Imported

China imported 2.451 mln tonnes of canola/rapeseed from all sources in 2019/20. A few different metrics can give perspective on how much canola/rapeseed China might have imported without the restrictions in place:

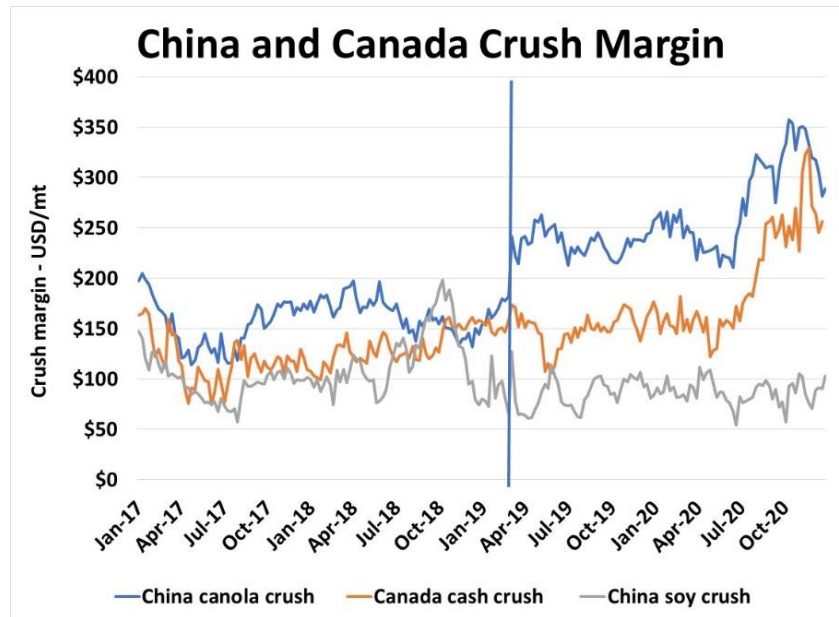
- We estimate China's total imports for 2019/20 might have been approximately 7 mln tonnes in 'seed equivalent' from all sources. This reflects roughly 4.5 mln tonnes of seed and 1 mln tonnes of oil (which equates to 2.5 mln tonnes of seed). This would be the largest since 2013/14, reflecting increased demand of oilseeds and vegetable oil. Global rapeseed supply was down in 2019/20, which in turn might have limited the total potential purchases, but 7 mln tonnes of seed/seed equivalent is reasonable given China's increased demand for other oilseeds.
- The weekly Chinese rapeseed crush averaged 87,152 tonnes for the 15 months prior to the March 2019 trade disruption. Actual weekly crush volumes for 2019/20 were 44,381 tonnes. This implies 2.224 mln tonnes of 'lost crush' when viewed across 52 weeks. China's actual 2019/20 rapeseed imports from all sources were 2.45 mln tonnes. When one adds the 'lost weekly crush' to the actual imports, the sum is 4.674 mln tonnes. This is close to the 4.5 mln tonnes of total implied seed imports we assumed above (plus an additional 1 mln tonnes of oil or seed equivalent).
- On the assumption of 4.5 mln tonnes of 'expected imports' from all destinations, China's actual imports came in 2.05 mln tonnes lower in aggregate. They imported 1.93 mln tonnes from Canada in 2019/20, compared to an expected 5-year average of 4.1 mln tonnes (with the balance of China's imports coming from other countries), or 2.17 mln tonnes less. This assumes the entire decline in imports (or more) was from Canada, as one would expect. The average traded weighted value¹ of the canola exported to China during the 2019/20 season was USD\$394.89/tonne. When considering a loss of potential exports of 2.17 mln tonnes, one could imply a potential lost sales value to China of USD\$856.91 mln.

Chinese Crush Margins

Chinese canola crush margins² moved to a new, higher range after the trade disruption. The lofty crush margins would imply that plants would crush canola more aggressively, implying greater import needs. Intuitively this makes sense, and may be the case.

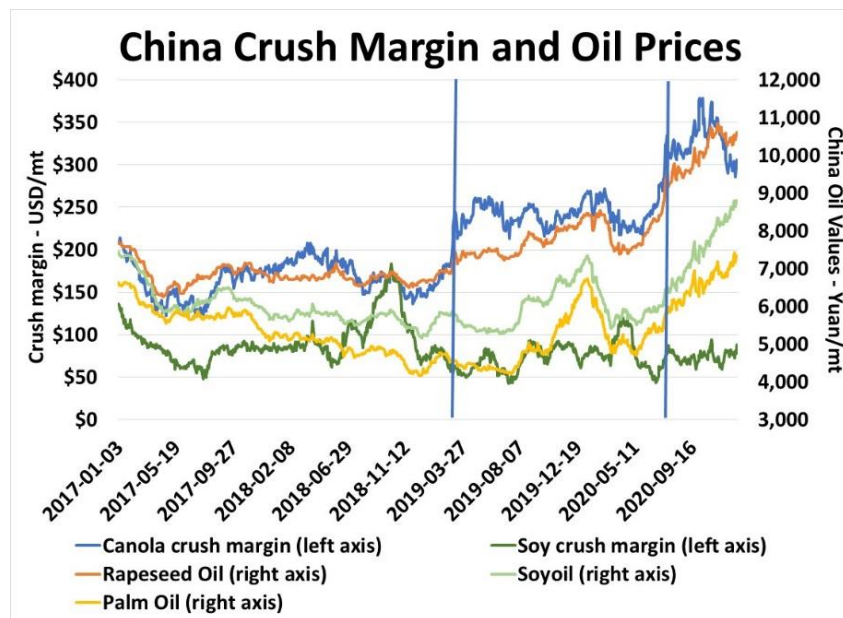
¹ Trade weighted value is the average value per tonne weighted by volume, measured in total value ÷ tonnes shipped.

² Crush margins are calculated by taking the estimated value of canola oil and meal less the cost of seed. Chinese margins are based on Chinese domestic meal and oil prices and C&F canola seed from Canada. Canada crush margin is based on domestic canola oil and meal prices and an average Prairie canola seed price. Crush margins are only a rough approximation of actual margins and are best used as a general indication of trends rather than actual processing margins. Margins may vary considerably from one company to the next.



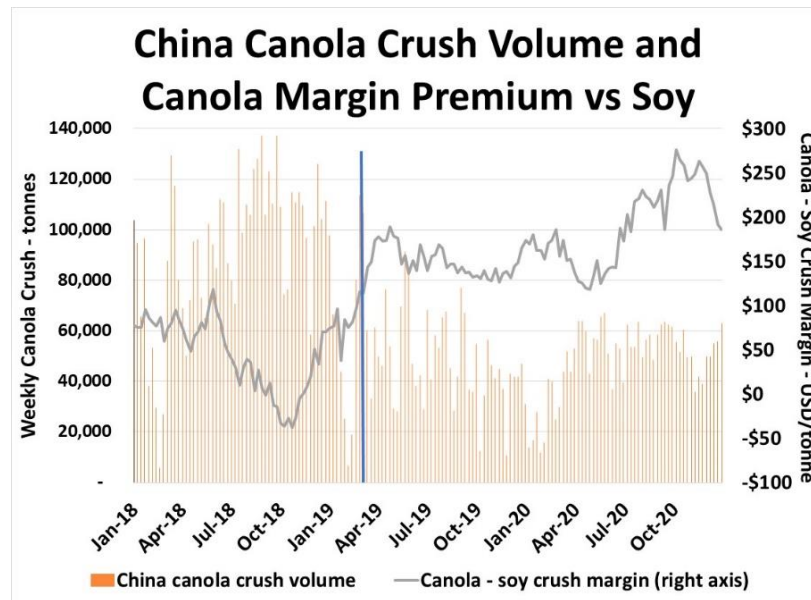
Source: NGOIC, Cofeed, Alberta Agriculture, LeftField Commodity Research, TNS

The increase in Chinese canola crush margins were a reflection of canola oil prices firming up and holding relatively stable, at the same time as China soybean oil and palm oil prices weakened through the spring and summer before increasing into the fall. It would be expected that higher rapeseed oil prices would improve rapeseed crush margins. However, it might be suggested the strength in rapeseed oil, specifically, while soybean oil and palm oil softened, could be the result of the trade disruption reducing canola supplies. In turn, it's possible the improved crush margins were the result of the trade action, rather than a 'naturally occurring' market phenomenon the Canadian industry could take advantage of in an open trade environment.

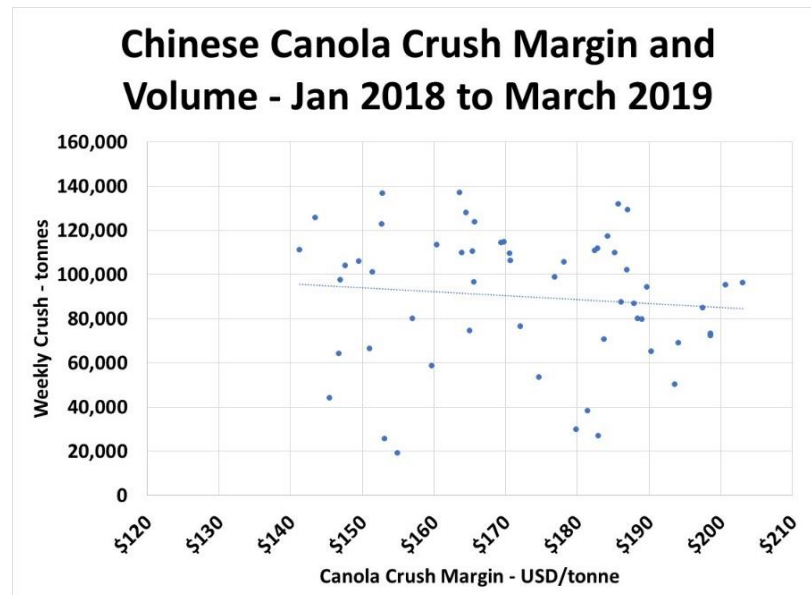


Source: NGOIC

However, the data points to a very low correlation between canola crush margins and crush volumes in the period leading up to March 2019. (The chart below shows weekly canola crush volumes and the spread between the Chinese canola crush margin and soybean crush margin). This includes examining both outright canola crush margins and canola crush margins relative to soybean crush margins, and also considering a lag between margins and subsequent crush volumes (on the assumption that improved margins might result in higher volumes in a later period to allow time to source supplies).



Source: Cofeed, NGOIC, Commodity3



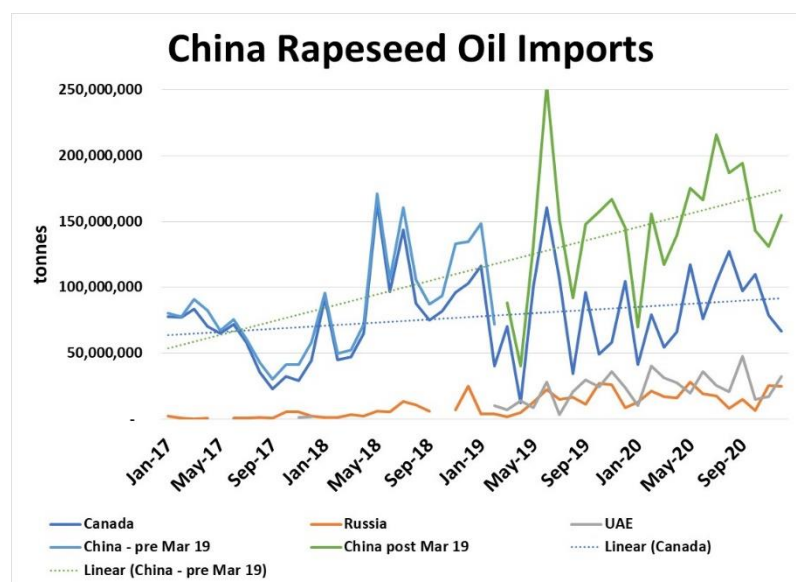
Source: Cofeed, NGOIC

Also note Canadian crush margins were somewhat higher from March to July 2019, although not as dramatically as in China. Crush margins in the second half of 2020 were similarly robust in both countries.

Offsetting Effects for 2019/20

Lower canola purchases from Canada resulted in China purchasing canola oil from other countries. Some of these countries either bought seed from Canada, or were left with smaller exportable supplies for other importing nations, which in turn opened up opportunities for Canada to export greater volumes to other destinations. This helped to partially offset some of the negative effects from China's lower purchases.

- UAE canola oil exports to China were minimal prior to the trade disruption. In the 2019/20 crop year they exported 324,378 tonnes of canola oil to China, the equivalent of 810,945 tonnes of seed. Canada exported 988,700 tonnes of seed to the UAE in that season, compared to the previous 5-year average of 510,700 tonnes (Canadian exports to UAE have varied considerably from one season to the next). It could be estimated that Canada exported an extra 480,000 tonnes to UAE than it might have to fill a hole in Chinese canola oil demand.
 - The extra volume helped offset the losses to China, but was also done at a lower price. The average export value of canola sold to UAE was USD\$28.21/tonne lower than the values to China, reflecting a loss of approximately USD\$13.54 mln compared to selling those tonnes directly to China at a higher price.
 - The larger UAE canola oil sales to China reduced the amount of oil it could provide to other destinations, particularly Europe. If one assumes 120,000 tonnes of canola oil that Europe might otherwise have purchased from UAE but subsequently needed to source elsewhere, it equates to an additional 300,000 tonnes of seed equivalent exports for Canada that might not have happened.



Source: CoFeed

- Russian rapeseed oil exports to China also increased substantially after the trade disruption (220,609 tonnes in 2019/20 vs 128,367 tonnes in 2018/19, which was heavily weighted to post-March 2019, and 46,823 tonnes in 2017/18). A conservative estimate is that 120,000

tonnes of additional Russian oil sales (300,000 tonnes of seed equivalent) were due to smaller Chinese imports of Canadian seed. This volume might otherwise have gone to Europe, which in turn allowed for more Canadian exports to Europe. The value of Canada's export sales to Europe averaged USD\$36.74/tonne less than China during the year, which when combined with the additional 300,000 tonnes for UAE equivalent volumes, would equate to USD\$22.04 mln (600,000 tonnes x USD\$36.74/tonne).

- The less competitive environment and larger available supplies may also have encouraged additional exports to Bangladesh. It had been a sporadic buyer in the past, and it's uncertain to what extent the larger imports in 2019/20 can be directly attributed to the Chinese restrictions. We estimate this resulted in 120,000 tonnes of extra imports (approximately the amount above their largest imports in recent years, with volumes also being heavily weighted in the months after March 2019). These sales were at an average price of USD\$35.27/tonne less than sales to China, for a loss in export value of USD\$4.32 mln.
- Note that while China imported more canola oil from Canada through the second half of 2018/19 and 2019/20, one could argue this was simply following the trend that was already in place prior to the trade disruption. For this reason, it might be considered that the higher canola oil sales didn't 'replace' some of the lost canola seed exports. This would also fit our assumption of China importing 1 mln tonnes of canola oil and filling the balance of their need with seed. Prior to March 2019 the vast majority of its canola oil imports came from Canada. China's additional oil imports from non-Canadian suppliers are accounted for in higher seed exports to third countries outlined above, either directly or indirectly.

Estimated net impact: We estimate Canada would have exported an additional 2.15 mln tonnes of canola to China with no restrictions in place, which would equate to approximately USD\$856.91 mln (approximately C\$1.16 bln) in lost sales. We estimate that the additional exports to other destinations offset roughly 1.2 mln tonnes of this, for a net reduction in exports of 850,000 tonnes. The lower prices of the 1.2 mln tonnes of canola exported elsewhere would reflect a loss of approximately USD\$39.93 mln (approximately C\$53.63 mln). Note the lost outright sales to China isn't the same as lost 'value', in the sense the canola not sold to China (or offsetting sales elsewhere) still maintains a certain value, even if it remains in Canadian farm or commercial inventories.

International Price Comparative Analysis

One way to get a sense of the loss in the value of Canadian canola is to examine price behaviour before and after the trade disruption relative to other key benchmarks. This comparison with other prices would be more indicative of the loss to Canadian canola, specifically, within the broader market than simply examining outright price action.

ICE Futures Canada and Euronext Rapeseed

ICE Canola – Euronext Rapeseed Futures (USD/tonne):	
Aug 2015 – Feb 2019 Avg	(\$43.10)
Mar – Jun 3 yr avg pre-2019	(\$26.73)
Aug 2018 – Feb 2019	(\$56.02)
Mar 2019 – July 2019	(\$72.16)
Aug 2019 – June 2020	(\$80.69)

Note: negative value reflects ICE canola at a discount to Euronext rapeseed.

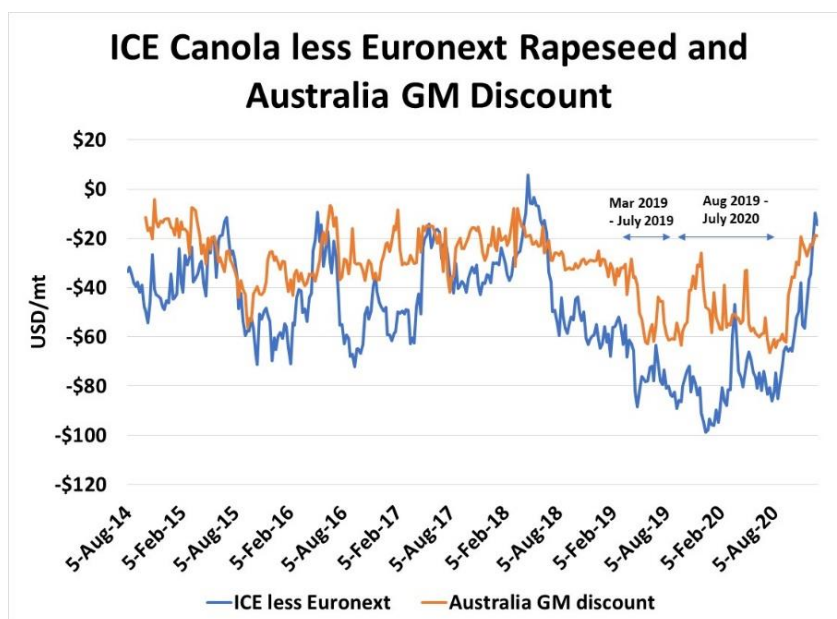
ICE Futures Canada canola³ lost value relative to Euronext rapeseed in the period after March 2019. The long-term average is for ICE canola to trade at a USD\$43.10 discount to Euronext rapeseed (although this can vary considerably both between and within years, and also reflects the fact that Euronext rapeseed is a non-GM product). In March 2019 the ICE discount went from an average of USD\$56.02 for the crop year prior to that date, to a wider discount of USD\$72.16. This loss in relative value came despite a seasonal tendency for the ICE futures discount to narrow on average into the spring and summer. In other words, instead of a seasonal three-year average gain in value of USD\$16.37 (from \$43.10 for Aug-Feb to \$26.73 for Mar-Jun), the discount in 2019 widened USD\$16.14. This might imply a loss of value of USD\$32.51/tonne.

There are some factors that might suggest the implied lost value in Canadian canola may have been smaller than simply the relative loss in value plus the seasonal consideration. Canadian canola futures had been trading at a wider-than-normal discount to Euronext prior to that date, partly reflecting smaller EU rapeseed production and indicating relative weakness of Canadian canola prior to March 2019. In addition, the GM/non-GM price spread also widened during this period as reflected in Australian cash values⁴, which widened by USD\$16/tonne during that time (non-GM Australian canola increased in price relative to GM Australian canola). This would add to the relative strength for Euronext futures as it reflects non-GM rapeseed. This suggests the loss in Canadian canola due to the trade disruption component could be closer to USD\$16/tonne for the 2018/19 period, based on this metric.

³ ICE Futures Canada canola is based on delivery in east central Saskatchewan.

⁴ Australia grows both GMO and non-GMO canola. The price difference between the two at Australian price points can act as a reflection of the premium for non-GMO more broadly since Australia is a key exporter and provides comparative prices from the same locations. This can provide perspective on the extent to which the GMO-non-GMO price spread might influence canola price differences across other geographies.

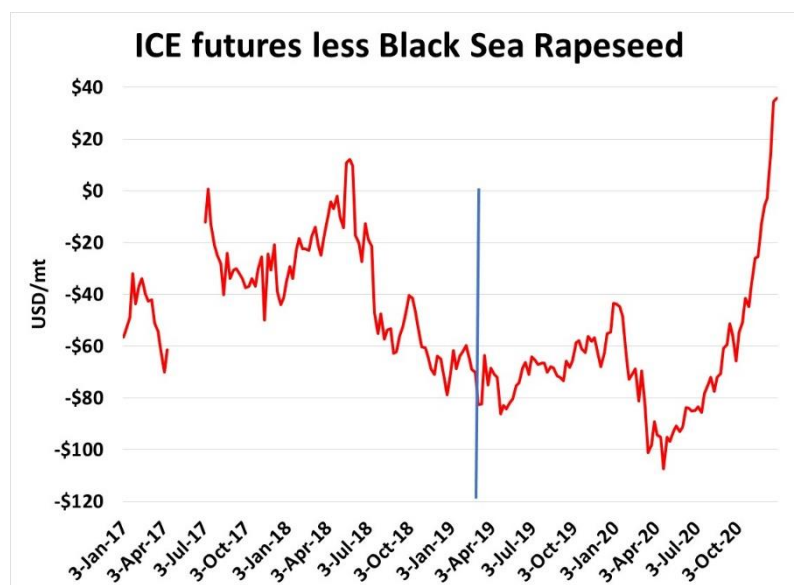
The effects appear to remain relatively stable through the 2019/20 season. The average ICE discount from Euronext was USD\$80.69/tonne from August through June, not much wider than the second half of 2018/19. The GM/non-GM price spread was relatively wide again, although quite variable (with Australian cash prices as an indicator). Also contributing to the large ICE futures canola discount was another small EU rapeseed crop. This might indicate a USD\$16/tonne of discount due to the trade disruption might have carried over into the 2019/20 crop year, although the direct effects are more difficult to pinpoint as the passage of time results in other factors working their way into the market.



Source: ICE Canada, Euronext, ProFarmer

Ukrainian Rapeseed

Canadian canola prices didn't appear to change much relative to Black Sea rapeseed prices after the trade disruption. The ICE Futures Canada canola price had already declined in relative value, partly reflecting a smaller crop in Ukraine, which would tend to be supportive to Ukrainian prices, all else equal. There is no strong seasonal tendency in the March – June period in the price relationship. One factor to consider is that Ukraine typically exports most of their crop in the fall and early winter, which makes prices reported through later winter and spring less relevant as there is little export business being done.



Source: ICE Futures, APKInform

Vancouver Canola and Australian GM Canola

The relationship between Vancouver and Australian cash prices during the periods being examined show the Vancouver premium being significantly less than average. However, this was already the case prior to the disruption. The primary reason is Australia suffered significantly smaller canola crops in the 2018 and 2019 growing seasons. This in turn disrupted normal price relationships as the shortage of supplies would lead to a relatively higher price for Australian canola, making it difficult to apply information specific to the trade disruption problem being considered.

Vancouver Canola – Kwinana GM canola (USD/tonne):	
Aug 2015 – Feb 2019 Avg	\$19.55
Mar – June – 3 yr avg pre-2019	\$40.43
Aug 2018 – Feb 2019	(\$1.27)
Mar 2019 – July 2019	\$5.98
Aug 2019 – June 2020	(\$4.07)

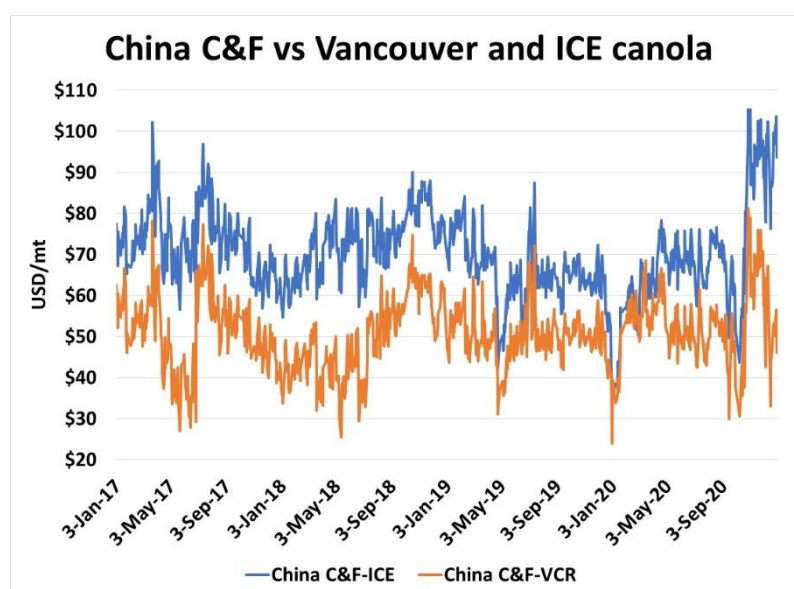
Note: a positive number indicates Vancouver canola at a premium to Kwinana canola, while a negative number indicates a discount.

China Price Comparison

A comparison of the price of canola between a China C&F value and ICE Futures or Vancouver track price doesn't show any meaningful change between the various periods. This intuitively makes sense since the C&F value is quoted as being sourced from Canada, thus reflecting Canadian prices. Regardless, there doesn't appear to be any sizeable difference in the quoted price in China relative to Canadian price points.

China C&F Spread to ICE Futures and Vancouver Cash (USD/tonne)

	China C&F less ICE Futures	China C&F less Vancouver
Jan 2017 – Feb 2019 Avg	\$73.00	\$50.30
Mar 2019 – June 2019	\$63.20	\$47.00
Sep 2019 – June 2020	\$62.50	\$51.00
Sep 2020 – Dec 2020	\$81.10	\$55.00



Source: ICE Canada, NGOIC

One price relationship that did show a meaningful change was the spread between Zhengzhou rapeseed and ICE canola futures. The ICE futures discount narrowed sharply immediately after the

trade restriction and stayed at a generally narrower level through the balance of the 2018/19 crop year. The relative strength in ICE futures might be counterintuitive given that Canada is where supplies were backed up. The price relationship has slowly worked its way toward a more normal level since then. The narrowing price spread would discourage Canadian exports, all else equal, although the trade disruption also means any potential opportunities from changes in price spreads are not something that would be easily acted on due to the restrictions.

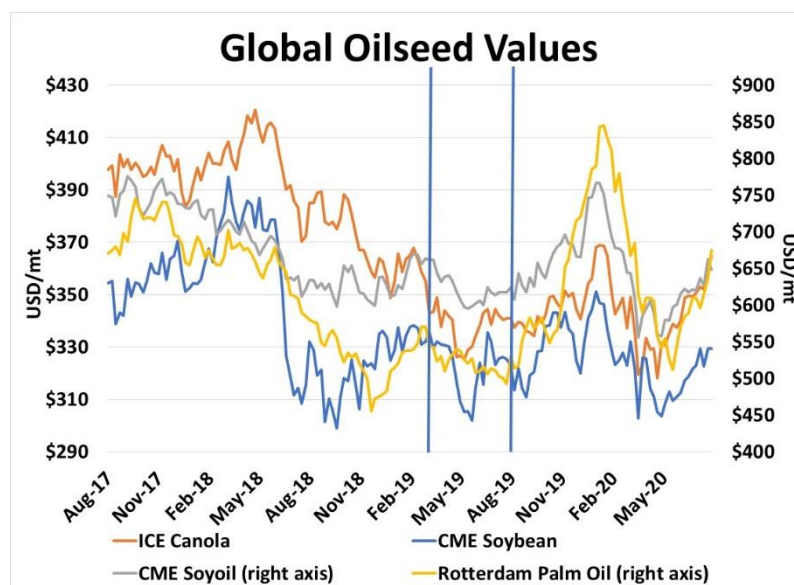


Source: ICE Canada, Zhengzhou

Other Oilseed and Vegoil Markets

Canola is part of a broader oilseed complex. The value of soybeans and soybean oil, palm oil and others have an impact on the price of canola. In addition, canola/rapeseed is only traded in meaningful way at relatively few price points and in considerably smaller volumes than other crops. For this reason it's useful to consider Canadian canola price behavior against other oilseed and vegetable oil markets. This may particularly be the case for the immediate price response in 2018/19 after the trade disruption, although even the more 'diluted' effects into the 2019/20 season may be of some interest.

Price behavior after March 6, 2019 indicates that the loss in value for canola through the balance of the crop year was comparable to other oilseed markets, such as soybeans, soybean oil or palm oil. In this sense there doesn't appear to be an additional price decline due to the trade restrictions based on this specific metric.



Source: ICE Canada, CME, OilWorld

Global Oilseed and Vegetable Oil Price

	March 5, 2019	Average from March 6 – June 18, 2019	Pct Change
ICE Canola Futures (USD/t)	\$342.95	\$336.85	(1.78%)
Soybean Futures (USD/bu)	\$9.14	\$8.73	(4.49%)
Soyoil Futures (USD/lb)	\$0.30	\$0.28	(6.67%)
Rotterdam Palm Oil (USD/t)	\$544.00	\$523.67	(3.73%)

Domestic Price Impacts

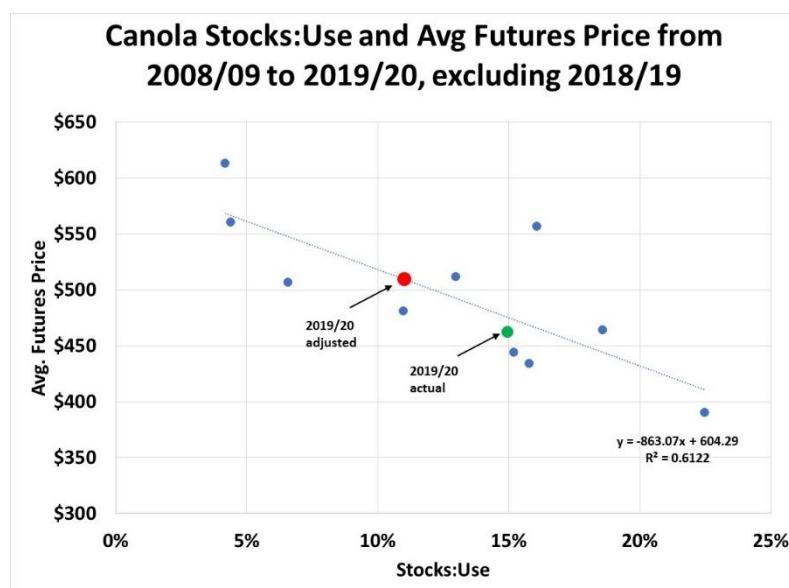
The trade disruption might have impacted the Canadian domestic market. Two factors were considered: what the price impact might be from the larger carryout in 2018/19 and 2019/20 from the reduced export sales and how basis levels behaved, including the relationship between exporter and crusher bids to the farmer.

Price Effect of Larger Canadian Supplies

Prices respond to changes in supply and demand. The trade disruption resulted in less canola being exported, which in turn means a larger supply of canola remaining in Canada. This has a negative impact on the value for the entire market.

One measure of determining what might be a 'fair' price is the relationship between prices and the stocks-to-use ratio (a measure of ending stocks relative to the total use of a crop). While imperfect (since canola prices don't trade only based on Canadian supplies, but are influenced by a host of factors both globally and across the oilseed complex in general), it may give a hint of what values might otherwise have been.

If China had taken the additional 900,000 tonnes of canola in 2018/19 versus what was deemed to have been caused by the trade disruption, this would have removed 900,000 tonnes from ending stocks, all else equal. This would have brought the carryout down from an actual figure of 4.43 mln and a stocks:use ratio of 20.3%, to 3.53 mln and a stocks:use ratio 17.7%. An analysis of the futures price versus the stocks:use ratio suggests this change in stocks:use would equate to approximately \$22.44/tonne in value. The nearby futures price was an average of \$33.68/tonne lower in the period from March 6 to June 15, compared to the average price during the crop year prior to March 6. In other words, the market drop would seem to reasonably reflect the unexpected change in the balance sheet relative to what the market was assuming earlier (assuming no other changes in the wider fundamentals).



Source: Statistics Canada, LeftField Commodity Research

Using this same assessment for 2019/20 and the assumed net loss of exports of 850,000 tonnes, ending stocks would have declined from 3.13 mln tonnes to 2.28 mln tonnes, and the stocks:use ratio would move from 15.5% down to 10.4%. This would extrapolate into an average futures price that is \$39.44/tonne higher than the \$461.86 actually seen during the 2019/20 crop year.

Crop Year	Canola Ending Stocks ('000t)	Canola S/U Ratio	ICE Futures (Sep – June Avg)	US Soybean S/U Ratio	Ratio of Canola S/U to US Soybean S/U
2008/09	1,944	15.8%	433.37	4.5%	3.5
2009/10	2,749	22.5%	389.62	4.5%	5.0
2010/11	2,186	16.1%	556.45	6.6%	2.4
2011/12	707	4.4%	559.95	5.4%	0.8
2012/13	588	4.2%	612.23	4.5%	0.9
2013/14	3,008	18.6%	463.69	2.6%	7.2
2014/15	2,573	15.2%	443.79	4.9%	3.1
2015/16	2,091	11.0%	480.36	5.0%	2.2
2016/17	1,342	6.6%	506.09	7.2%	0.9
2017/18	2,636	13.0%	511.04	10.2%	1.2
2018/19 (actual)	4,435	23.3%	451.18	25.2%	0.8
2018/19 (adjusted)	3,534	18.5%	473.62*	25.2%	0.5
2019/20 (actual)	3,131	15.0%	461.86	13.3%	1.1
2019/20 (adjusted)	2,281	10.8%	501.30*	13.3%	0.7

**Futures price calculated from regression model based on revised stocks:use ratio after assumed lost demand was removed from ending stocks.*

One consideration that might have resulted in a smaller increase in the futures price than the model implies is that the US soybean market was more heavily supplied in 2019/20. For example, the 2015/16 crop year had a similar canola stocks:use ratio and an average futures price of \$480.36, while the US soybean stocks:use was a much tighter 5.0% than the 13.3% seen in 2019/20. The more heavily supplied global oilseed market and more competition might suggest an average futures price increase that could be closer to \$20.00/tonne, since increased competition in the broader oilseed complex may have limited potential gains for canola.

Finally, it should be noted that the regression model has an R-square value of 0.61. This indicates a positive relationship between the stocks:use ratio and average futures price, but also suggests there are other factors that influence the futures price as well. As a result, the results should be given somewhat less weight than if the model had, e.g. an R-square of 0.9.

Domestic Basis Levels

There doesn't appear to be any meaningful change in the relative basis levels shown to farmers between elevators and crushers during the periods in question. Crushers tend to show higher basis levels across all periods both before and after the disruption, but the difference doesn't appear to change in a meaningful way after the disruption.

The analysis also shows a low correlation (R-square value of 0.17) between stocks:use ratios and Prairie basis levels, suggesting the larger supplies due to reduced export sales do not have a measurable effect on basis levels, according to the data examined.

Western Canadian Canola Average Basis Levels

	Prairie Elevator	Crusher	Crusher Premium
2015/16 – 2017/18			
Full crop year	(24.90)	(18.95)	5.95
Sep 1 – Mar 1	(27.45)	(25.80)	1.65
Mar 1 – June 30	(20.04)	(13.50)	6.54
2018/19			
Full crop year	(28.32)	(23.40)	4.92

Sep 1 – Mar 1	(27.46)	(25.69)	1.78
Mar 1 – June 30	(26.31)	(19.45)	6.86
2019/20 (full crop year)	(25.24)	(19.11)	6.12
2020/21 to end of Dec	(39.50)	(34.81)	4.68

Potential Effects in 2020/21

The trade restrictions remain in place during the current crop year. While this hasn't stopped canola futures from trading to record-high levels, it doesn't mean the restrictions are not having a negative effect. The more time that passes however, the more the market adjusts to the current realities, which makes quantifying the price impact of this specific variable more challenging, particularly since 2020/21 is only half complete. However, there are a few trends that can be identified and points to consider:

- Canadian exports to China from August to the end of December were 1.188 mln tonnes. This puts the annual pace for the crop year at 2.85 mln tonnes, which would be nearly 1 mln tonnes ahead of purchases in 2019/20. If one assumes a 'normal' volume of 4.1 – 4.4 mln tonnes, this would put exports approximately 1.2–1.5 mln tonnes short of "potential".
- Exports to UAE for Aug-Dec 2020 are 554,059 tonnes, equating to a full-year pace of 1.33 mln tonnes. This compares to 394,559 tonnes for Aug-Dec in 2019/20 and 988,713 for all of 2019/20. What is less certain is how much of this represents potential oil sales to China. UAE canola oil exports to China have continued on a similar pace to the previous 18 months. However, it's possible that recent large purchases from Canada may result in higher oil sales in future months to allow for time of shipping, processing and exporting of canola oil. However, this won't be known until export data gets released several months from now.
- Russian canola oil exports to China have also maintained a similar pace. One might suggest a similar outcome as last year for Canadian exports into the EU to fill in the shortfall.
- If similar 'offsetting effects' of approximately one million tonnes for UAE and Russia are assumed for 2020/21 as occurred in 2019/20, this would offset a sizeable portion of the Chinese 'shortfall' in volume, although export sales are largely done at lower values.
- Canada has exported to Bangladesh and Pakistan at an even greater pace in 2020/21 than last year. One might suspect that 'normal' Chinese buying might have squeezed some of these purchases out due to a lack of available supply, which in turn might have resulted exports made at a higher value.

While it's plausible the ongoing trade restrictions are continuing to have a negative effect on the Canadian canola market in 2020/21, the direct effects become more difficult to isolate as markets continue to adjust, and as Chinese imports from Canada have increased (although at lower levels than might be expected). The unusually strong global market for all oilseeds and vegetable oil adds further uncertainty of the direct effects.

Summary

This analysis has provided different perspectives for considering the impacts of China's trade restrictions on the Canadian canola industry.

2018/19 season after March 6:

- Reduced Chinese imports are estimated at between 630,000 to 981,000 tonnes. Based on an average export sale value of USD\$410.29, this would reflect lost potential export business of USD\$258.5 mln – USD\$402.5 mln (approximately C\$344.67 mln - C\$536.67 mln).
- The volume of Canadian canola impacted by the disruption might be estimated at approximately 10.95 mln tonnes (total supply of old crop on-farm supplies and 2018 production, less farmer deliveries to early March based on CGC data).
- The price impact can be estimated in one of the following ways:
 - Relative loss of value against the Euronext rapeseed futures price of between USD\$16.00 – USD\$32.51 per tonne (approximately C\$21.42 – C\$43.52). This would equate to a loss of value of the remaining 10.95 mln tonnes of canola of between C\$234.549 – C\$476.54 mln.
 - Increase in stocks:use ratio suggests a price decline of approximately C\$22.44 per tonne, for a total value loss of \$245.72 mln on 10.95 mln tonnes.

2019/20 season:

- The total loss of exports to China was estimated at 2.17 mln tonnes, of which 1.2 mln tonnes were offset with sales to other countries. The net loss of export business is 970,000 tonnes, with an average sales value to China of USD\$394.89 per tonne, or USD\$383 mln in lost sales (approximately C\$514.78 mln).
- The offsetting export sales to other destinations were done at a lower average sales price than done to China. This is estimated to reflect roughly C\$53.63 mln in lost value.
- The volume of the price impact could be applied across all of 2019 production, or 19.61 mln tonnes.
- The price impact can be estimated in one of the following ways:

- Relative loss of value against Euronext rapeseed futures of USD\$16.00 per tonne, or C\$21.51, for a total value loss of C\$421.78 mln when considered across the 2019 crop.
- Increase in stocks:use ratio could be estimated to have had a price impact of between C\$20.00 – C\$39.44 per tonne, for a value loss of C\$392.2 mln - C\$773.42 mln across the entire 2019 crop.

2020/21:

- While it's possible there continue to be negative effects, it is too early to quantify at this point in the season.

Overall Impact:

The estimated net loss in canola export sales from March 6, 2019 through July 31, 2020 is between C\$0.859 bln - C\$1.051 bln. The aggregate loss in canola value from March 6, 2019 through July 31, 2020 is estimated to range from C\$0.681 billion to C\$1.304 billion.