NEWSLETTER

FSL INGREDIENTS
Your Long Term Partner

BAKERY, CONFECTIONERY & SPECIALITY INGREDIENTS Q1 2021

Dear Readers,

We wish you all a blessed Ramadan.

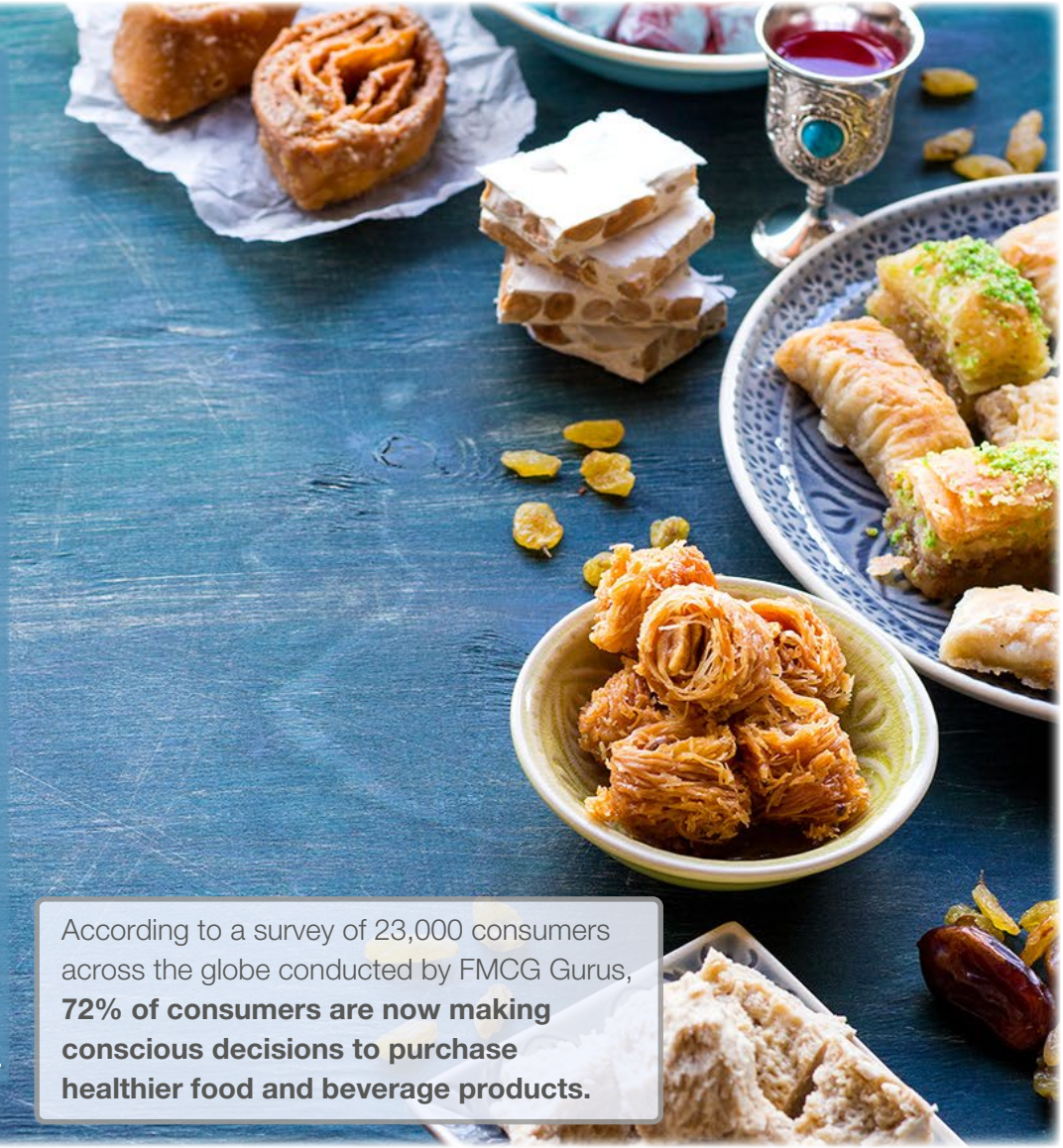
The COVID-19 pandemic has swarmed the world for over a year now, bringing every industry to bear witness and adapt to the challenges it has presented. However, in its wake, various opportunities have also emerged due to a health and sustainability consciousness which is accelerating the health trend, particularly in the GCC. Although the health trend has been leading our industry for the past decade, the Coronavirus pandemic has made health and immunity the most pressing concerns today.

In response to these significant shifts in consumer psychology, FSL has focused on healthier ingredients solutions which can add value to the lives and well-being of consumers.

In this edition of our Bakery, Confectionery and Speciality Ingredients newsletter we will be covering the following topics:

1. Sugar Reduction and Replacement
2. High Quality Infant Nutrition
3. Modified Starches
4. Corn Price Outlook
5. Palm Oil Price Outlook
6. Cocoa Prices Outlook

Please contact us to discuss any of the solutions presented here.

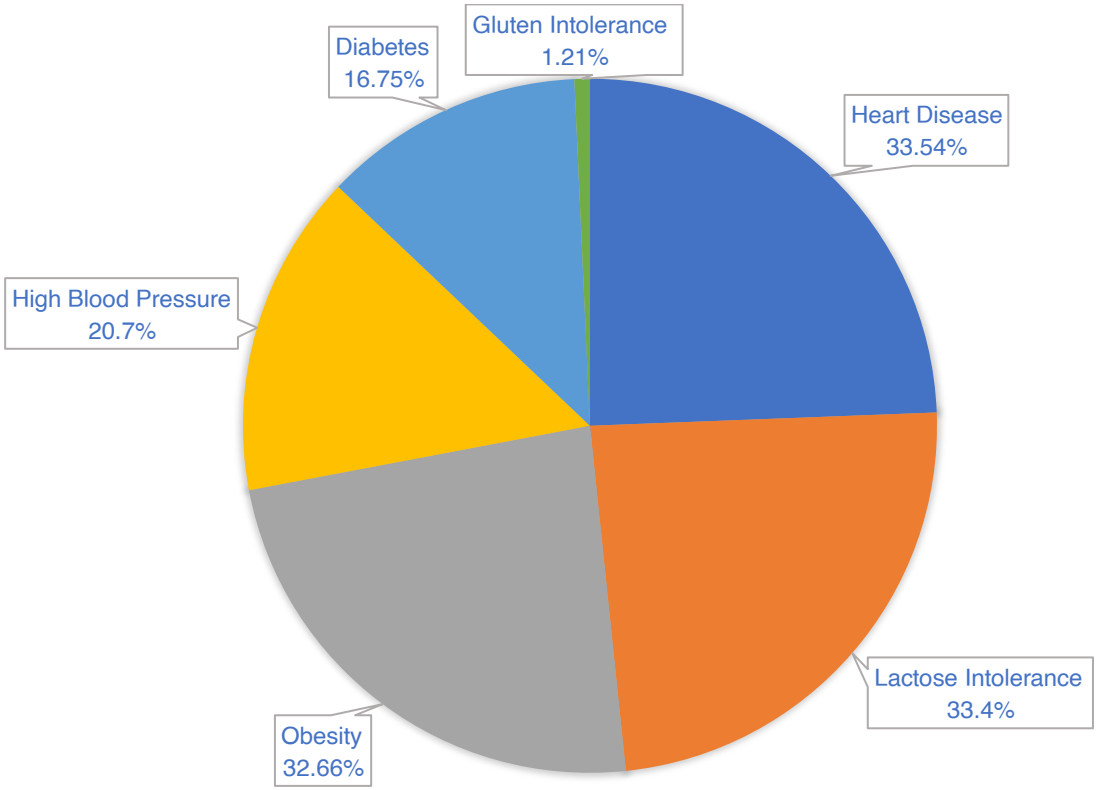


According to a survey of 23,000 consumers across the globe conducted by FMCG Gurus, **72% of consumers are now making conscious decisions to purchase healthier food and beverage products.**

LOWER GI PRODUCTS WITH FIBER ENRICHMENT & SUGAR REDUCTION SOLUTIONS

Over the past 15 years, low sugar or low-GI (Glycemic Index) diets have been associated with decreased risk of obesity, high-blood pressure, cardiovascular disease and type 2 diabetes, most of which are key health issues in the GCC.

GCC POPULATION HEALTH RISK STATISTICS 2020



The Glycemic Index (GI) is a measurement of the impact carbohydrate-containing foods have on our blood sugar levels. There are various research methods for assigning a GI value to food. In general, the number is based on how much a food item raises blood glucose levels compared with how much pure glucose raises blood glucose.

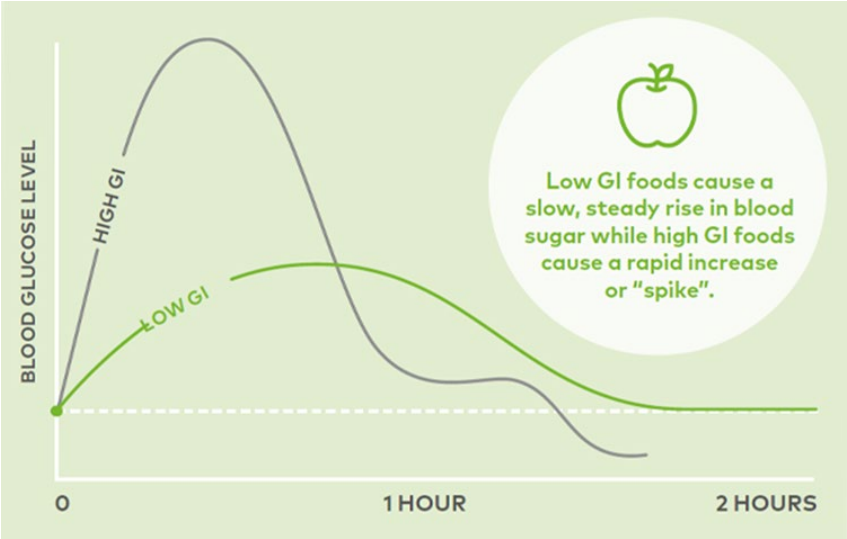
We rank our foods as being low (1-55), medium (56-69), or high (70-100) in their GI value on a scale of 1-100 with glucose topping the list at 100. Only foods with carbohydrates have a GI. Proteins and Fats do not.

Commercial GI diets may describe foods as having slow carbs or fast carbs. In general, foods with a low GI value are digested and absorbed relatively slowly, and those with high values are absorbed quickly.

Consumers today have become very label conscious and are often comparing various factors including the GI of their foods to guide them towards healthier nutrient choices.

**Remarks: Lactose Intolerance numbers are excluding Qatar and Bahrain. Gluten Intolerance numbers are excluding Qatar, Oman and Bahrain. Please contact FSL for information on the source of this data.*

WHY LOW GI FOODS ARE BENEFICIAL FOR HEALTH?



A low GI diet or healthy GI nutrients support us by:

- ☑ Treating Obesity or to control body weight
- ☑ Blood Glucose control
- ☑ Cholesterol control
- ☑ Appetite control

FSL has developed solutions to address each of these key health factors.

WEIGHT MANAGEMENT & TREATING OBESITY

The GCC has some of the highest rates of obesity in the world with 33% of the population suffering from this condition which eventually leads to other health complications such as diabetes and high blood pressure. Obesity is primarily caused by excessive calorie consumption (particularly from high GI Foods) and a sedentary lifestyle.

Besides obesity, weight gain and weight control are key concerns of most adult consumers in the GCC who are actively seeking products which support their weight management efforts.

The global obesity average is 13%. GCC is 33%.

Source: WHO

BLOOD GLUCOSE CONTROL

In addition to the overall GI of a product, the total sugars present are the strongest predictors of blood glucose response and which will increase the GI of a product considerably. The best method to effectively manage blood glucose levels is to reduce consumption of calories from sugars. Those with diabetes know very well that this is essential to manage their blood glucose levels.

CHOLESTEROL CONTROL

Trials measuring the impact of low-GI index diets on cholesterol levels have shown consistent evidence that low GI diets containing dietary fiber help lower total cholesterol, as well as low-density lipoproteins (the "bad" cholesterol).

APPETITE CONTROL

Low GI foods contain slow burning carbohydrates which are digested over a longer period of time compared to high GI foods which are digested quickly and cause a rapid increase in blood sugar and a subsequent return to feeling hungry within a few hours. Low-GI foods would, in turn, delay feelings of hunger and help consumers eat less and better manage their weight. The researchers who maintain the GI database caution that the "glycemic index should not be used in isolation" and that other nutritional factors such as total calories, fat, fiber, vitamins and other nutrients should also be considered.

FSL SOLUTIONS TO REDUCE THE GI OF PRODUCTS

FSL offers a diverse portfolio of ingredients to reduce the GI of products ranging from low calorie sugar replacers such as polyols and Stevia to functional ingredients such as Dietary Fibers, Inulin and Fructooligosaccharides (FOS).

Let our experts walk you through the technical and physiological benefits of our ingredients, with market insights consumer concepts and recipes based on the most innovative food engineering.

FSL Functional Ingredients for Low GI Product Manufacturing:

FSL FUNCTIONAL INGREDIENTS	FSL PRINCIPAL	APPLICATION BENEFIT
Polyols-Sorbitol, Maltitol, Mannitol, Isomalt, Xylitol, Erythritol, Lactitol	Cargill-USA, IFF (DuPont)	Sugar Replacer, Calorie Reduction, No Sugar Added or Sugar Free Product Applications
Litesse-Polydextrose	IFF (DuPont)	Dietary Fiber, Sugar Replacer-Bulking Agent
Fructofin-Crystalline Fructose	IFF (DuPont)	Low GI & Low-Calorie Fruit Sugar without any loss of sweetness.
Citrus Fiber (CITRI-FI)	Fiberstar-USA	Natural dietary (soluble and insoluble fiber) for various food application. Product moistness improvement, Fat reduction, Egg reduction for baking application.

FSL FUNCTIONAL INGREDIENTS	FSL PRINCIPAL	APPLICATION BENEFIT
Fructooligosaccharides (FOS), Inulin, Shortchain FOS	Sinopharm-China, Galam-Spain	Highly Soluble Fibers with very Low GI. Offering prebiotic benefits and better calcium absorption. Can also be used as a flavor enhancer, bulking agent and for fat reduction.
Aspartame, Sucralose, Acesulfame-K	Sinopharm-China	High Intensive Sweeteners offering Calorie Reduction, Low GI and Sugar Replacement.
Stevia	Tate & Lyle-UK	Natural High Intensive Sweetener with zero calories.
Fibers, Multi Grain & Seeds, Gluten Free Flour Range, Oat Flakes	Trade Suppliers of FSL	High in Fiber, Low and Medium GI products for bakery applications.
DCPC, White Grape Juice Concentrate & other Fruits Sugars.	GGP-Indonesia, AJM-Spain	Low GI Natural Fruit Sugars

We also offer ingredients to help reduce cholesterol:

FSL FUNCTIONAL INGREDIENTS	FSL PRINCIPAL	APPLICATION BENEFIT
VIVIDOL-Fat Blends containing Phytosterols	AAK-Denmark	Reduces cholesterol levels in the body with phytosterols in various food applications.

INFAT® : PERFECTING INFANT NUTRITION

The optimal nutrition for newborn babies is their mother's milk. It is designed to provide the perfect balanced diet and meet the needs of growing infants and is recommended worldwide by health organizations. When a mother cannot, or chooses not to breastfeed her baby, it is important to find an alternative source of nutrition that meets the infant's needs.

What is INFAT® ?

The ultimate goal for infant formula producers is to offer a product as similar as possible in its ingredients to mother's milk. **INFAT®** is a clinically-proven SN2 palmitate ingredient that mimics the fat structure and properties of human milk fat. Based on a patented enzymatic process, **INFAT®** provides structured triglycerides with a high level of palmitic acid in the middle position (SN2) of the triglyceride. This unique fat enables easy digestion and optimized uptakeof calcium, fat recovery, and energy. **INFAT®** is a specialized fat ingredient solution from AAK and Frutarom which has been proven in the market for over a decade.

Clinical Evidence?

New published clinical and preclinical studies of **INFAT®** demonstrate that it has positive effects on beneficial gut flora, intestinal health, infant bone strength and stool hardness. The studies also showed that infants fed with formula containing **INFAT®** cry less and sleep more. **INFAT®** may also have the potential to support healthy bone growth, improve fat and calcium absorption, improve healthy gut bacteria and offer better intestinal health which in turn strengthens the infant's immune system.

INFAT® : PERFECTING INFANT NUTRITION

This high-quality fat product is manufactured by Advanced Lipids – a joint venture between AAK and Frutarom. **INFAT®** is a specially structured vegetable oil with high level of SN-2 palmitate, also known as OPO, it mimics the structure of human milk fat and provides important benefits to the baby.

FSL has been supplying the highest quality infant formula solutions in the GCC for over 20 years. To support our customer's infant nutrition formulation our expert technical team is always ready to assist with their vast experience and knowledge of infant nutrition formulation.

AAK opened its current state of the art factory to manufacture **INFAT®** in Karlshamn in 2008. Since then, sales of the product have grown significantly and the future factory expansion will enable AAK to increase production even further to meet the frowing depand for Advanced Lipids in the coming years.

CREATING TEXTURE & HIGH PERFORMANCE

Modified food starch ingredients offer functional benefits such as gelling, thickening and bulking which contribute to the overall quality of food and beverages. They are hard-working ingredients which play an important role in food formulation, providing texture, controlling moisture, stabilizing ingredients and extending shelf life. Cargill's extensive portfolio of modified food starches includes thinned modified starch, stabilized starch, roll-dried starch and cold-water swelling starch.

FSL's portfolio of modified food starches from Cargill have been customized and developed to fulfill the needs of the regional food industry.

STARCHES TO SUIT EVERY PURPOSE

- **Rich texture**, including thickening, bulking and gelling.
- **Improved performance**: increased processing stability, longer shelf life, enhanced emulsification.
- **GCC Tailored solutions** for specific applications, processes and storage requirements.

CARGILL PRODUCTS		
	Key Properties	**Functional Benefits**
INSTANT: Roll Dried Food starch is essentially insoluble in cold water. Instant (modified) starches produced by roll-drying are important for optimal application functionality, being soluble in cold water and providing excellent (instant) viscosity, good heat, freeze-thaw and acid stability		
Cargill Tex™ Instant **StabiTex™ Instant** **PolarTex™ Instant** **PulpTex™** **HiForm®**	• Soluble in cold water • Short texture • Excellent emulsification • Water-binding	• Adds viscosity without need for heat • Stable through heat, freeze / thaw, acid • Extends shelf life • Good cold storage
COOK-UP:		
Starch Esters: Cross-linking can have a substantial effect on the viscosity profile of starch. Starch, which is normally susceptible to viscosity breakdown either from prolonged heating, high shear or acidic conditions, shows a stable viscosity profile over time once it is cross-linked.		
Starch Ethers: Etherified starch brings a new dimension to texture stability because of their improved functional properties compared with esterified starches. Pastes of starch ethers have better clarity, higher viscosity, reduced syneresis and superior freeze-thaw stability. If the starch is also cross-linked, freeze-thaw stability during prolonged storage periods can be further enhanced.		
Cargill Tex™ **StabiTex™** **CreamTex™** **PolarTex™**	• Starch esters stabilize viscosity profile • Starch ethers offer better clarity, higher viscosity, reduced syneresis & superior freeze / thaw stability • Emulsifying starch can replace eggs, gum Arabic, sodium caseinate in foods	• Adds viscosity & texture • Acid, heat & shear tolerance

SPECIALITY:

Emulsifying Starch:

Lipophilic starch is obtained by esterification with n-octenyl succinic anhydride, resulting in a starch structure comprising both hydrophilic and lipophilic properties: a defining feature of an emulsifier. They are used to replace eggs for reduced cholesterol foods, to replace animal-derived sodium caseinate, and to replace gum arabic.

Confectionery and Extruded Starch:

The low hot paste viscosity of Cargill's thinned modified starches allows high solid confectionery products to be easily deposited. Thinned starches can be cooked with sweeteners and water to a low moisture content without becoming too viscous. The gel-forming, setting and textural properties of thinned starches and consequently the selection of the right starch type are very important for confectionery manufacturers.

Batter Starch:

Consumer attitudes towards tasty and convenient foods, coupled with a preference for seafood, poultry and vegetables, have given food processors the opportunity to adapt existing products by improving appearance, taste and shelf-life. An innovative range of batter starches has been developed with different adhesive and clear coating functionalities to meet the demand for versatile coatings with high crispiness and optimal structural integrity. Batter Crisp modified food starch provides consistent adhesion of breading, batters and coatings, uniform pick-up of batters, and desired crispy/crunchy texture in finished fried products. High amylase versions also provide texture in extruded cereals.

AccuCoat® **AccuFlo®** **EmulTru™** **EmCap®** **Emulsifying Starch Starrier R™** **CleanSet®**	• Exceptional stability in cold storage conditions • Options for confectionery & batters • Emulsifying starches can encapsulate flavors & be used for flavor emulsions in beverages	• Adds viscosity & texture • Binding, thickening, gelling & stabilizing

Cold-Water Swelling:

Our new range of highly functional CWS starch produced with a spray-cooking technology was introduced to improve the quality of a number of spreads,fillings and sauces.

HiForm®	• Fast hydration • Available in waxy corn & tapioca	• Provides the viscosity, texture & stability of cook-up starch • Stable through heat, freeze/thaw, acid • Excellent shelf life

APPLICATIONS

Bakery | Beverages | Cereal | Confectionery | Culinary/ Convenience | Dairy | Meats | Sauces/ Dressings | Snacks

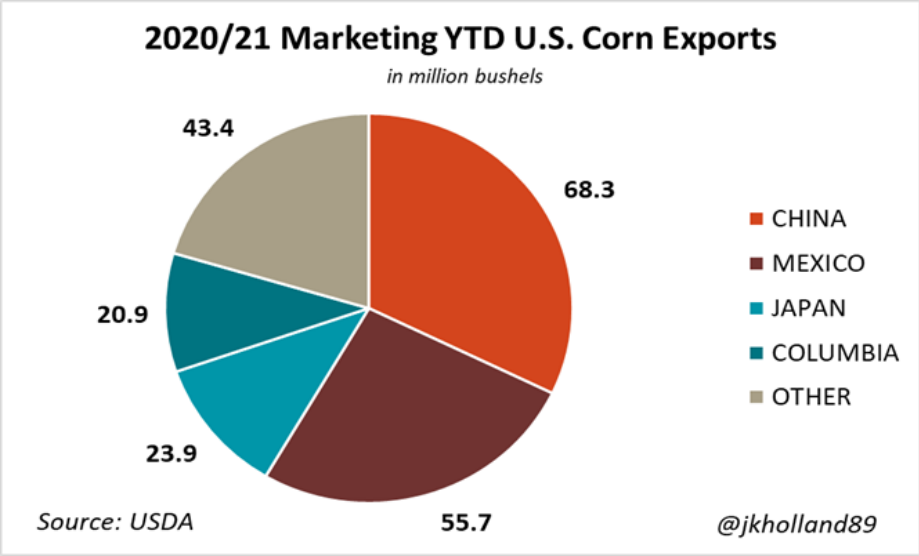
CORN PRICE OUTLOOK

Farm Futures

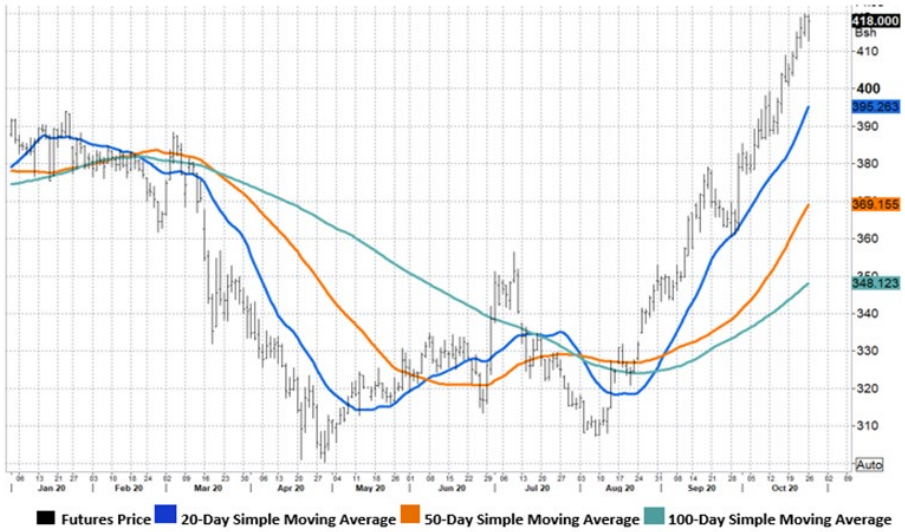
The 2020 / 21 marketing year is already off to a better start than just seven months earlier. While many factors help determine market prices, export demand for corn has been one of the most significant drivers behind recent price rallies. Our corn outlook will provide an in depth look at exports as well as other factors influencing corn prices.

STRONG GLOBAL PRICES AND FOREIGN DEMAND RAISE PROJECTED CORN EXPORTS

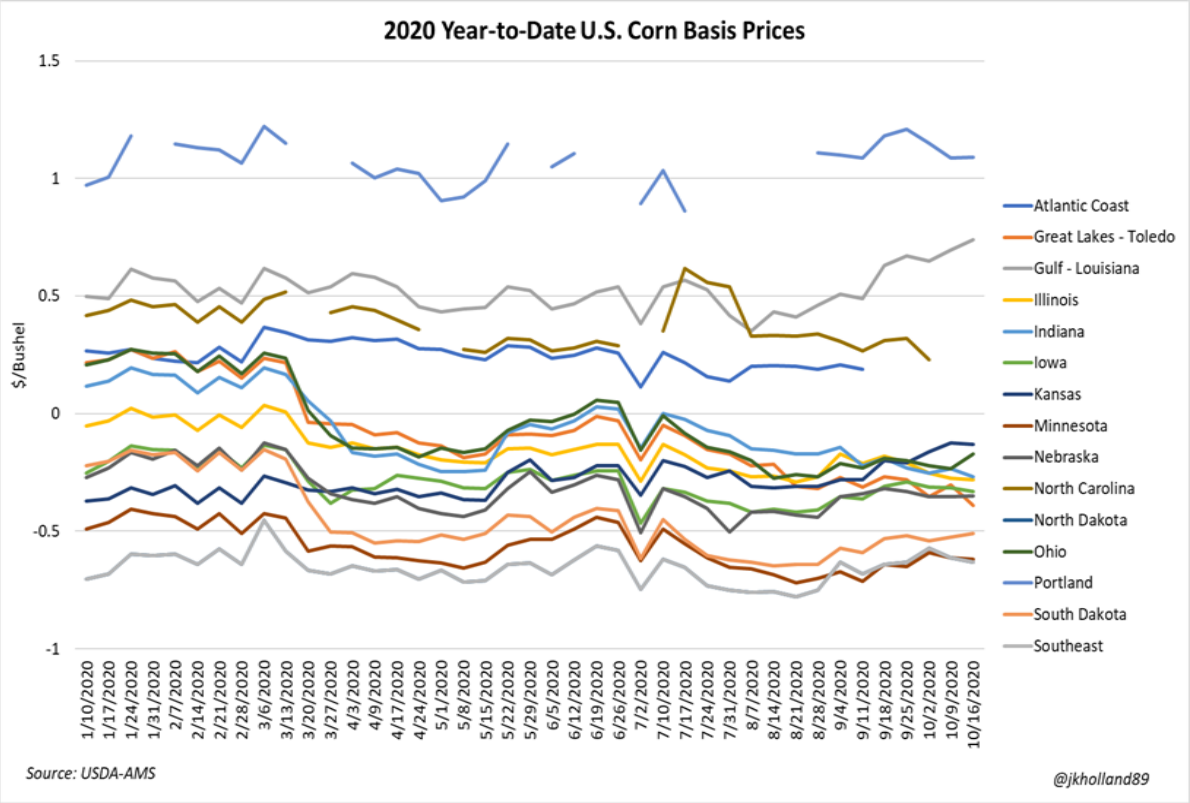
U.S. corn exports are projected to be 2,600 million bushels in 2020 / 21, which would be a record if realized. The 50-million-bushel increase in exports from the previous month reduces projected ending stocks to 1,502 million bushels. The projected season-average farm price for corn is increased to $ 4.30 per bushel. Global trade of feed grains for 2020 / 21 is raised 3.6 million tons from the previous month. Chinese coarse grain imports are raised 6.7 million tons, as high domestic prices and strong demand from the domestic-livestock sector are resulting in higher imports and additional purchases. Higher imports from China are partially offset by lower imports in the European Union, Japan, South Korea, and Saudi Arabia—based primarily on higher prices



December 2020 Chicago Corn Futures



Source: CBOT, Eikon



and increased competition in the global market. High global prices and strong foreign demand result in raised coarse grain exports for the United States, India, Argentina, Brazil, and South Africa.

Continued production reductions are just the windfall the corn market needed as far as profitability estimates are concerned, especially combined with higher than expected old crop usage. December 2020 corn futures traded at the Chicago Board of Trade (CBOT) have rallied $ 1.125 / bushel since the derecho winds swept through Iowa in early August, flirting with 15-month highs as of October 23.

A continuation of strong prices will depend largely on steady export demand from China and any potential downward yield projections USDA-NASS forecasts in WASDE reports in the coming months. The upward price momentum was a long-awaited reward to farmers who held on to old crop stocks outside of the marketing window over the past several growing seasons.

Markets are suggesting that action be taken soon. There is little carry in the nearby futures market, an indication that corn may be more valuable now than if it is sold next summer. Furthermore, with a quarter cent difference in July 2021 corn contracts and December futures there is little price incentive currently for farmers to store corn.

These spreads are, of course, subject to change with market conditions. But marketing is a timing game. And the current corn spreads clearly incentivize farmers to book sales sooner rather than later. Strong basis at export terminals in the Pacific Northwest, U.S. Gulf, and Atlantic coast has forced end users to raise cash offerings during peak harvest season. Basis has strengthened across the Corn Belt during harvest season as a result, offering a bonus incentive to farmers looking to capitalize on storage hedges. Avoid being lulled into a false sense of security that higher prices during harvest are here to stay. As good as they are, they won't last forever. Making profitable sales now based on known break evens will help to spread overall price risk across the growing season. Even if USDA further lowers 2020 yields and acreage, booking smaller sales in the final days of harvest – at a profit - will ensure a healthy balance sheet if those adjustments do not happen.

Source: https://www.farmprogress.com/story-weekly-corn-review-0-30766

PALM OIL PRICE OUTLOOK

Malaysian palm oil futures have been trading above MRY 3,800 a tonne but remained not far from its lowest level since early November 2020 as China completed restocking for the Lunar New Year and as the commodity has been very expensive compared with soybean oil in global markets. Also, China is buying increasing amounts of soybeans, palm's top rival in the food and biodiesel industry, to power an aggressive expansion of the country's hog industry. Palm oil doubled in price from its low in May 2020 and reached a 10-year high on January 6th 2021 amid tight supplies in Malaysia, the world's second-largest producer.

Another issue on the pricing front has been the short supply of containers which has made freight forwarding a challenge as suppliers are forced to pay almost additional $ 1,000pmt extra per FCL compared to last year.

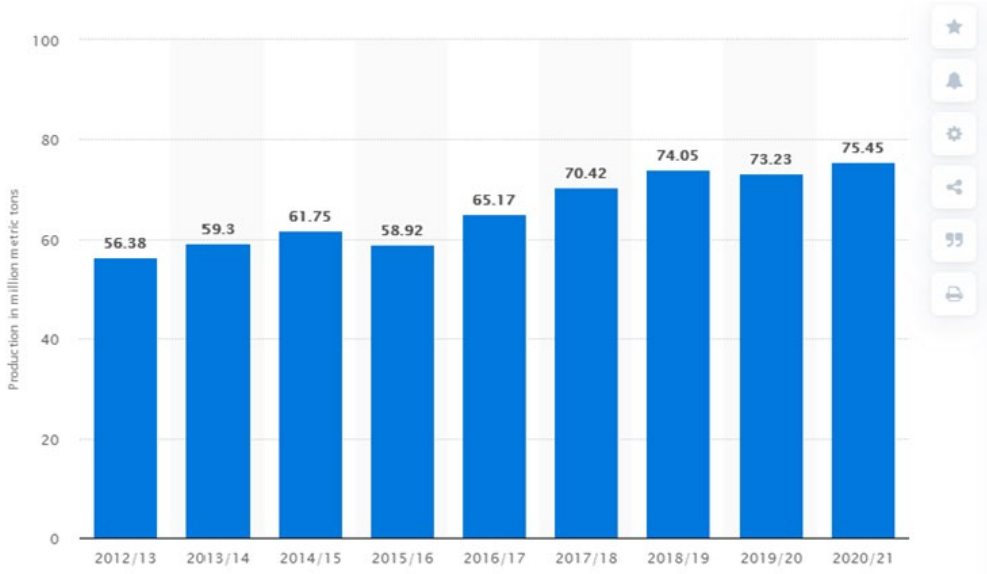
Palm oil production in the world's top two producing countries is expected to recover and drive volatility in prices this year which are likely rise to nine-year highs, Malaysia's benchmark palm oil contract kicked off the year at near decade-high levels of 3,800 ringgit (US$ 940.13) due to a supply crunch in global edible oils. Prices are, however, forecast to average at 2,800 ringgit ($ 694.96) a ton this year, its highest since 2012, compared with 2,685 ringgit last year, according to the median estimate from a poll of 18 analysts and industry players. "2021 is going to be more turbulent. The market is expected to face more volatility because crude palm oil price has gone way beyond expectations," said Christopher Chai, general manager with Kwantas Corp.

Global palm oil output contracted last year after La Nina-induced heavy rains and a labor shortage exacerbated by the pandemic which hurt supply in Indonesia and Malaysia who contribute 85 percent of the world's production. Production is expected to recover in the second half of this year as heavy rainfall and better fertilization due to high prices boost palm fruit yields. Indonesia's production in 2021 is seen rising 1.8 percent from the year before to 48.3 million tons. Rival Malaysia's production is pegged to rebound by 2.4 percent to 19.6 million tons, according to the poll. Palm prices will slightly decline in the third quarter as production recovers and the pandemic situation improves,

said Sahat Sinaga, Acting Chairman of Indonesia Palm Oil Board.

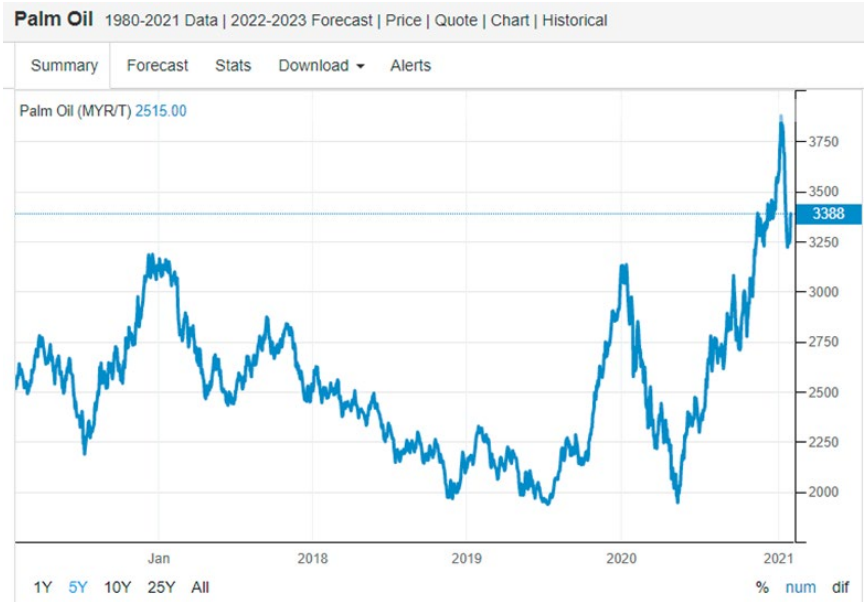
"The combination of improving supply and sales from second half of 2021 will induce some price elasticity at work and reversals," said Marcello Cultrera, institutional sales manager and broker at Phillip Futures in Kuala Lumpur. However, participants also cautioned that rising COVID-19 cases globally amid discovery of new variants have prompted many countries to reinstate lockdown measures. This may lead to a repeat of the demand slump in 2020 when hotels and restaurants were forced to close. Better production and slow demand will lead to rising stockpiles, which may suppress prices.

Indonesia's B30 biodiesel mandate - biofuel with 30 percent palm oil mix - will also swing prices as it is crucial to control palm inventories from ballooning amid falling biofuel exports according to analysts. The Indonesian Palm Oil Association early this month said it would ask the government to reformulate its biodiesel blending rates or revise the export levy if palm prices (which is now trading $ 360 above crude) maintain their meteoric rise.



Palm oil: global production volume 2012/13-2020/21

© Statista 2021



Source: https://www.thejakartapost.com/news/2021/01/21/palm-oil-prices-may-hit-nine-year-high-in-turbulent-2021.html

COCOA MARKET REPORT

Courtesy of www.icco.org

With the March-2021 (MAR-21) and the May-2021 (MAY-21) futures contracts still active in February, the focus for this review remains on these two contracts as listed on ICE Futures Europe (London) and ICE Futures U.S. (New York).

Expected key market developments for February 2021 are presented. **Figure 1** shows price movements on the London and New York futures markets respectively at the London closing time during February 2021 while **Figure 2** presents the same information during February 2020.

Figure 1: Prices of the MAR-2021 and MAY-2021 futures contracts on the London (ICE Futures Europe) and New York (ICE Futures U.S.) markets

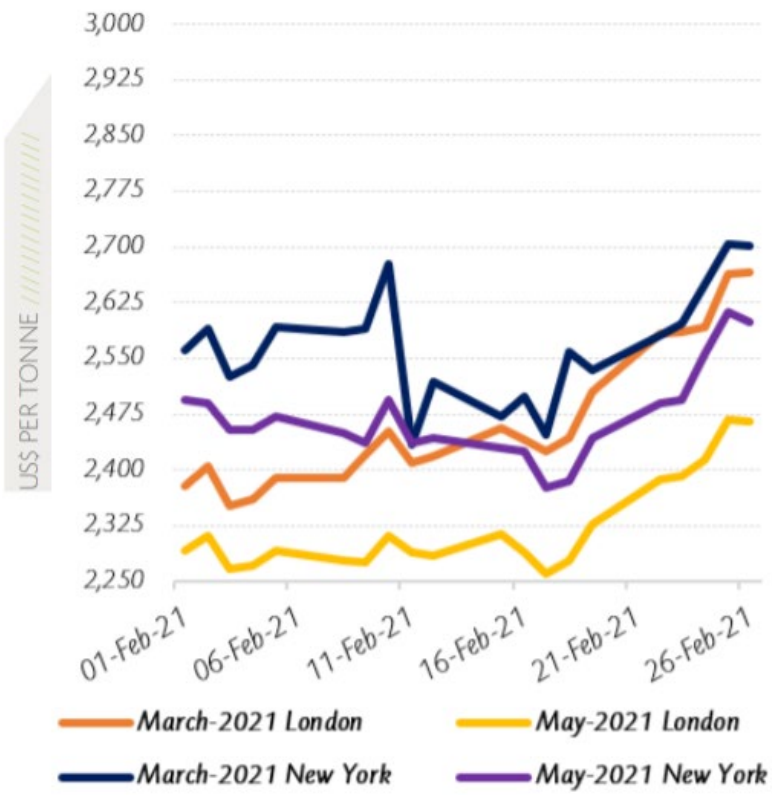
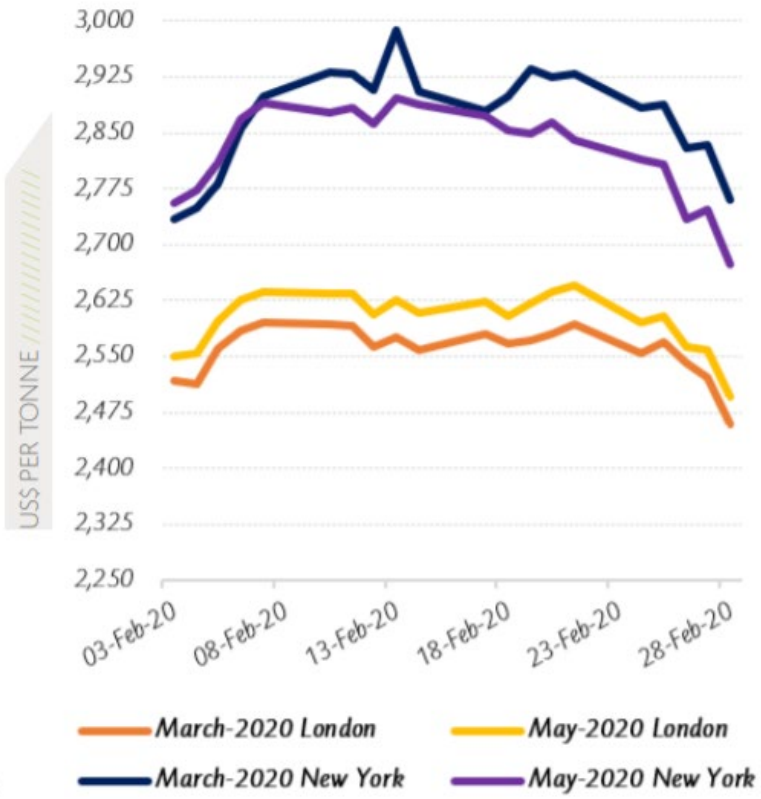


Figure 2: Prices of the MAR-2020 and MAY-2020 futures contracts on the London (ICE Futures Europe) and New York (ICE Futures U.S.) markets



COCOA MARKET REPORT

Following the trend set in the preceding month, both the London and New York markets continued to be in backwardation during February 2021. As depicted in Figure 1, the front-month contract (MAR-21) continued to price above MAY-21 on both sides of the Atlantic. The London and New York markets recorded an average premium of US$ 144 per tonne and US$ 96 per tonne respectively. It is noteworthy that, a year ago, the two nearest cocoa futures contracts were in contango in London whereas a combination of contango and backwardation was observed in New York (Figure 2).

During the period under review, the nearby contract prices in London averaged US$ 2,467 per tonne, down by 4% compared with the average price ofUS$ 2,560 per tonne for the first position contract recorded during the corresponding period a year ago. In New York, the nearby cocoa contract averaged US$ 2,568 per tonne in February 2021; representing a 11% plunge compared to US$ 2,872 per tonne recorded over the same period of the previous crop year.

The global supply excess in addition to a low demand for cocoa products amidst the COVID-19 pandemic maintained cocoa prices at levels lower than observed last season.

From the start of the month under review to 17 February, prices of the MAR-21 contract oscillated in London and New York. Prices ranged between US$ 2,351 and US$ 2,455 per tonne in London, and between US$ 2,435 and US$ 2,678 per tonne in New York. At the time, favourable meteorological conditions were reported to support production. Furthermore, with the aim of reviving sales, the Ivorian government announced a reduction in the price of their export licences for the 2021 / 22 cocoa season. Thereafter, cocoa prices followed an upward trend, thanks to the extension of the global rollout of vaccines and improved prospects of containment of the pandemic, which raised the optimism in the demand for most commoditiesincluding cocoa. In reaction to these bullish factors, futures prices soared on both markets, climbing by 9% from US$ 2,442 to US$ 2,666 per tonne and by 6% from US$ 2,385 to US$ 2,599 per tonne in London and New York respectively.

Please contact FSL if you are interested in any of the above products or topics:

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