

56th ISO MECAS Meeting

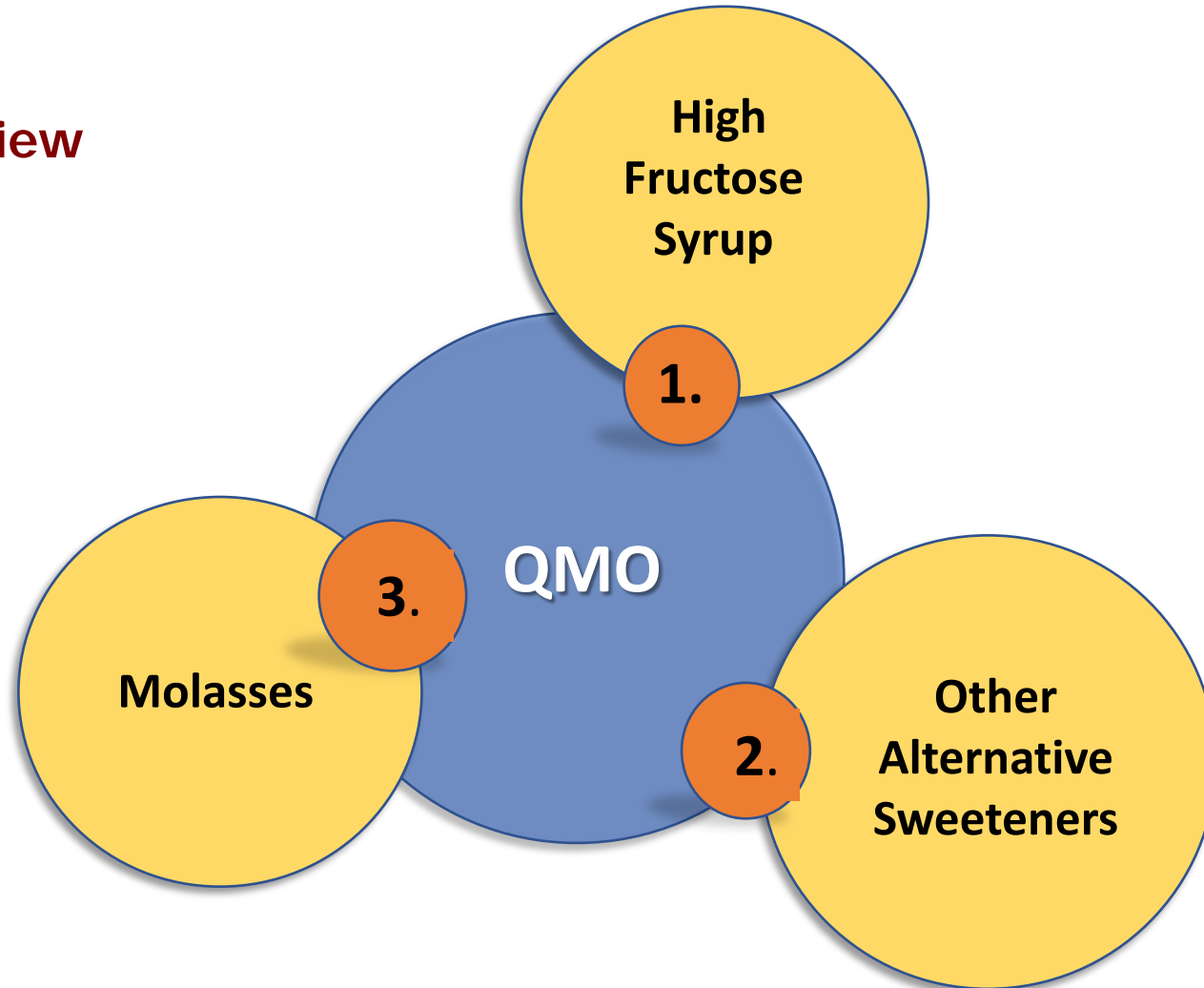
Alternative Sweeteners and Molasses

***LINDSAY JOLLY
EXPERT CONSULTANT***

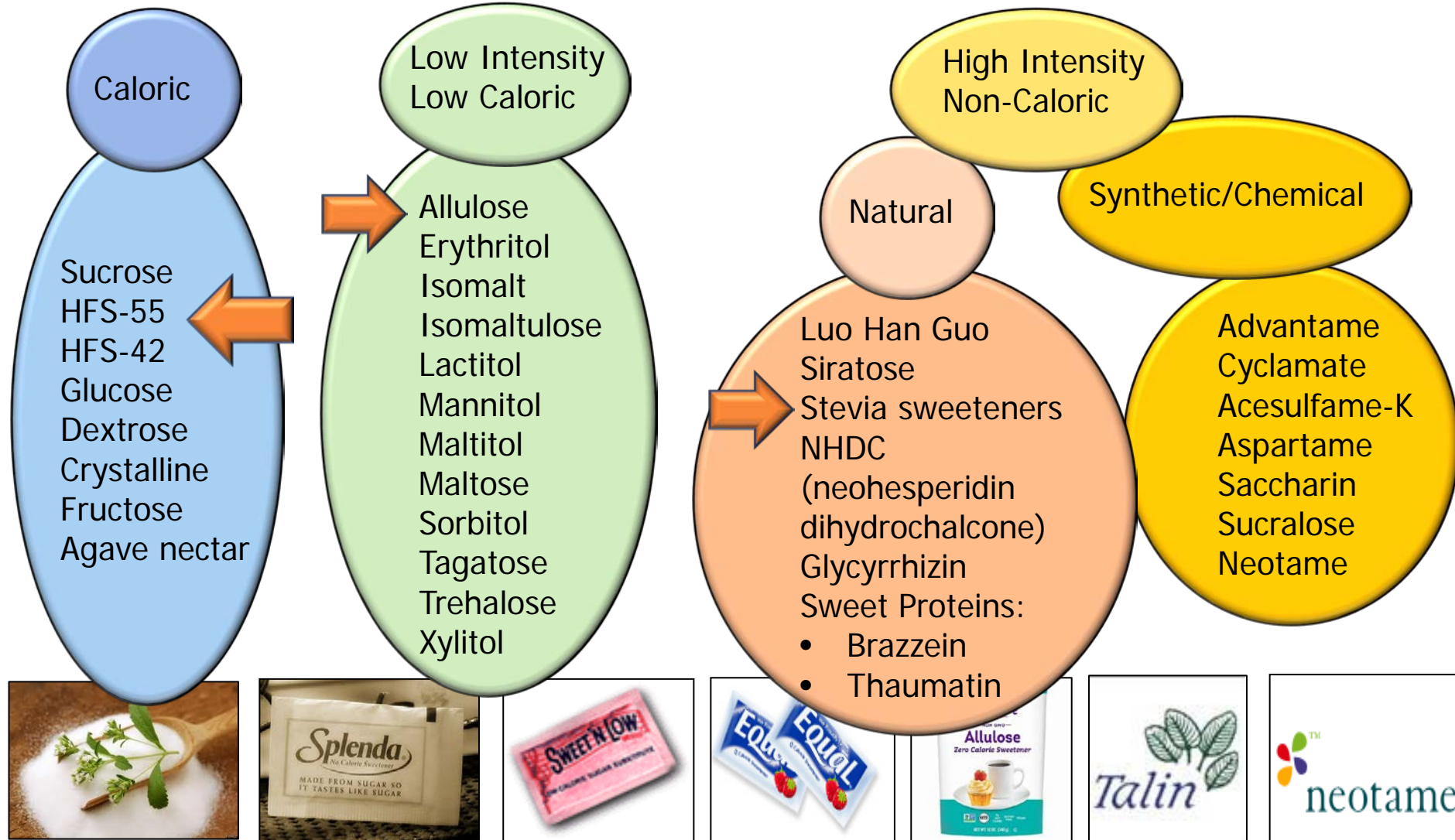


Agenda

Presentation Overview

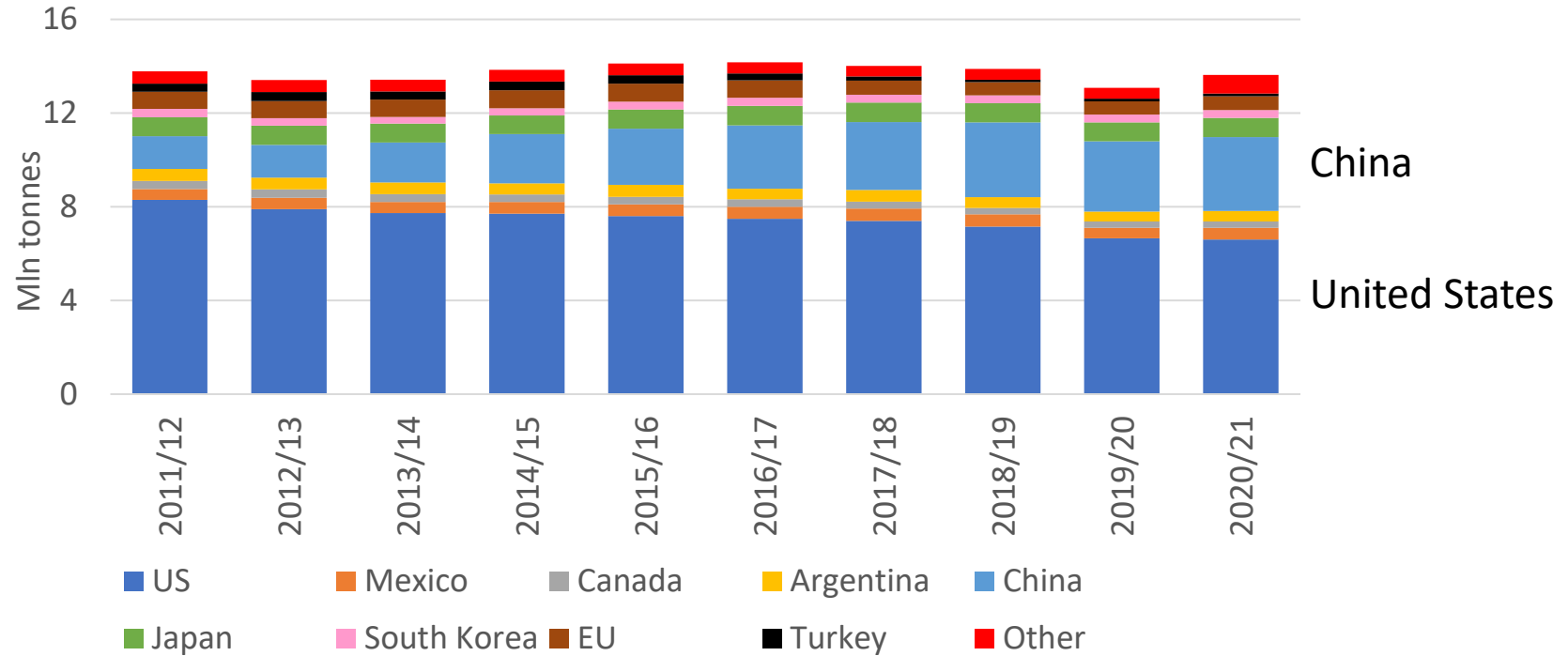


Major Sweetener Categories and Types



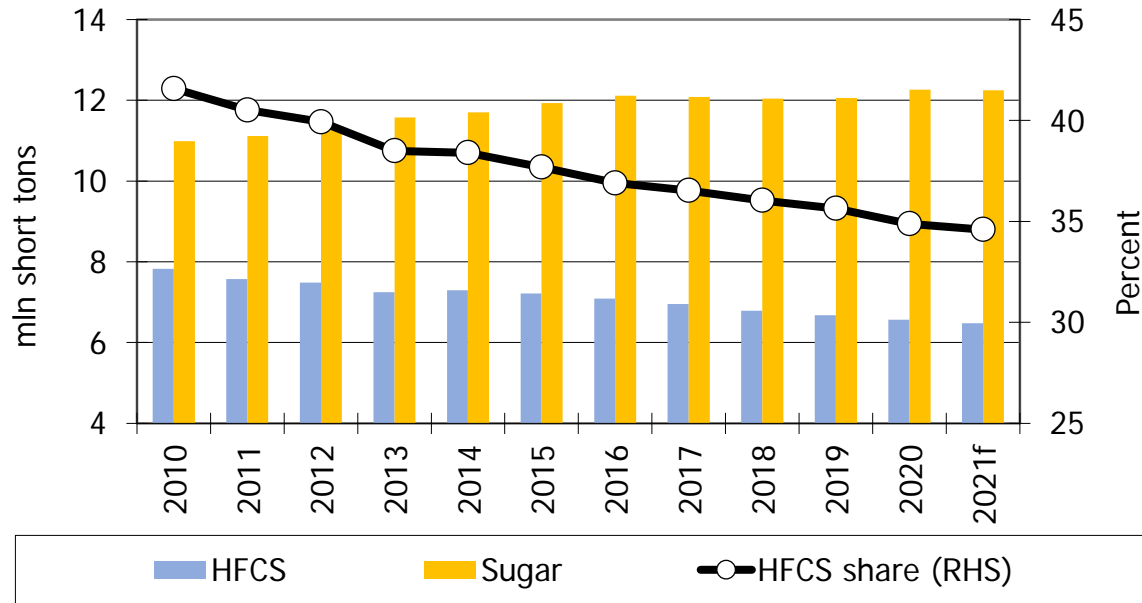
World HFS Production

World HFS Production

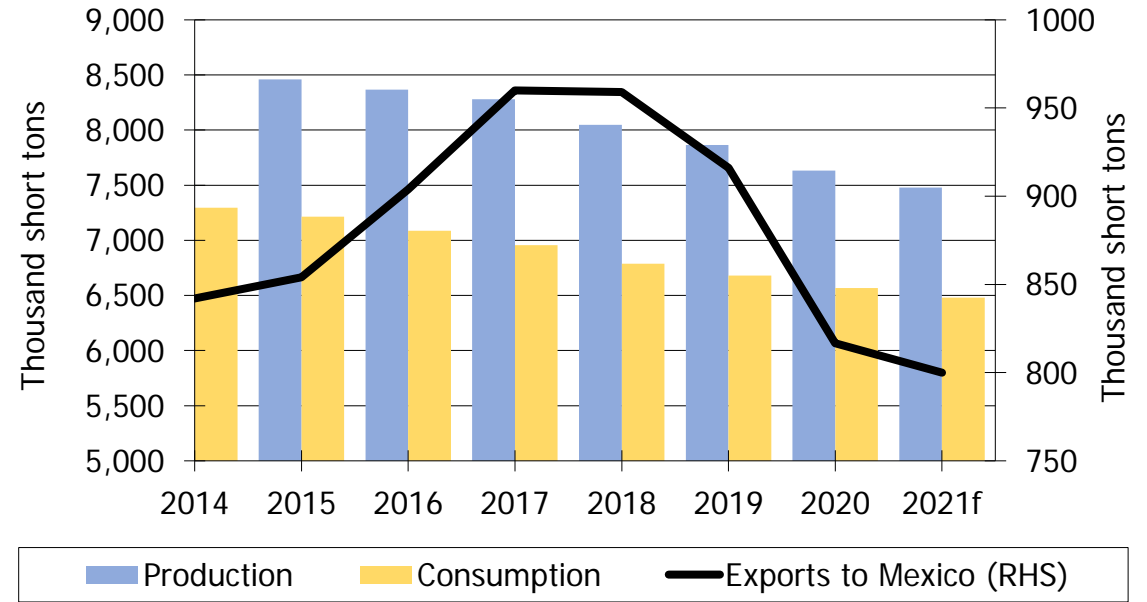


US HFCS

US HFCS and Sugar: Deliveries for Domestic Food and Beverage Use

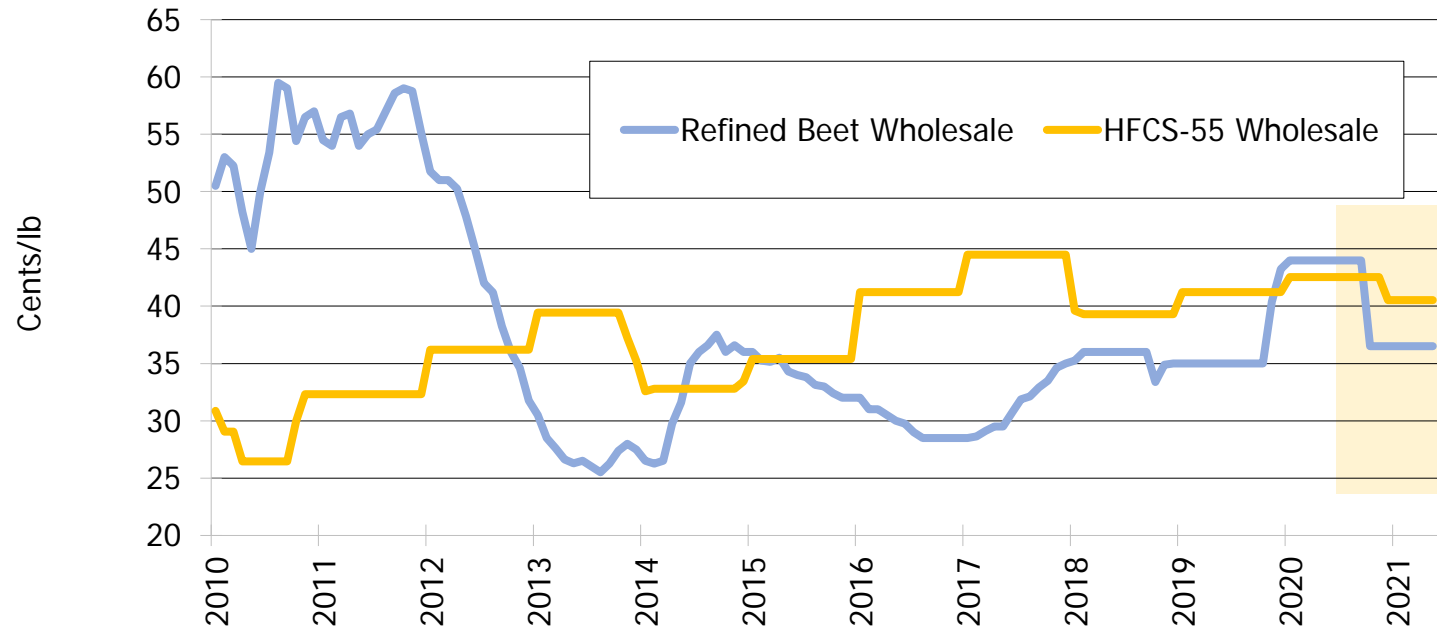


US HFCS Production, Deliveries and Exports to Mexico



US HFCS

Monthly US HFCS and Sugar Prices

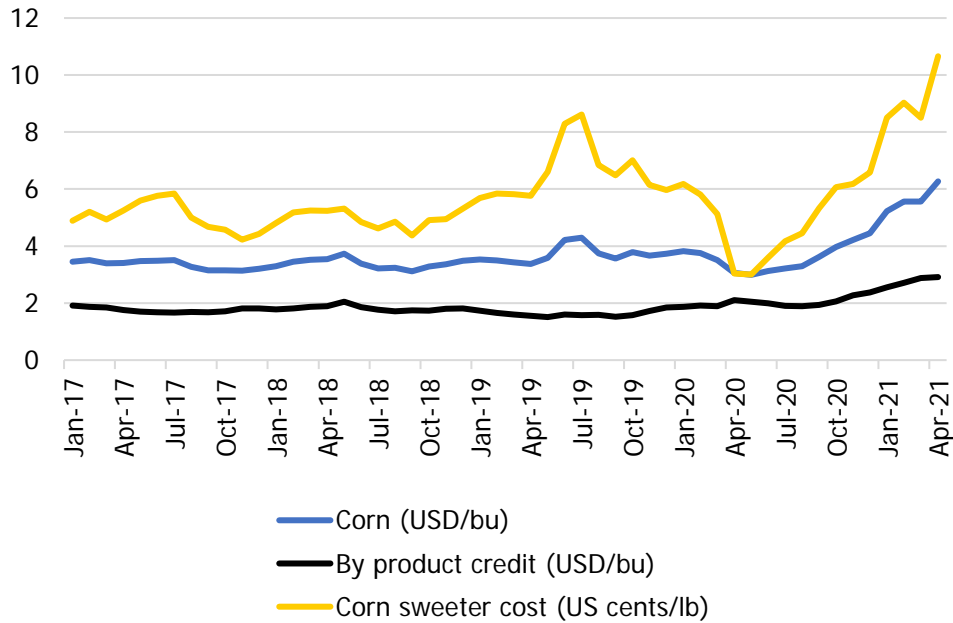


HFCS less competitive against sugar

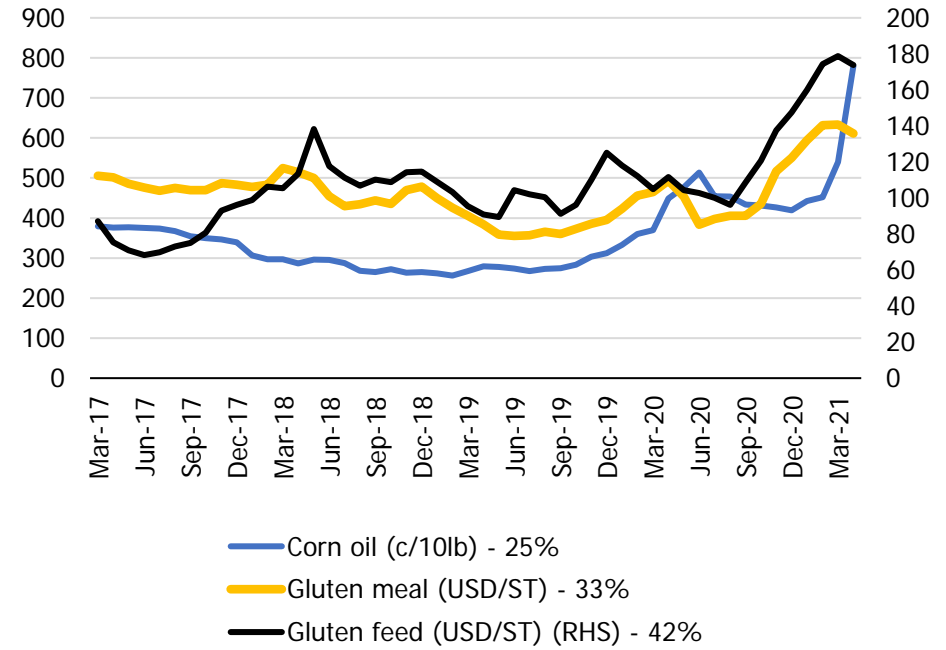


US HFCS

US Net Corn Sweetener Cost

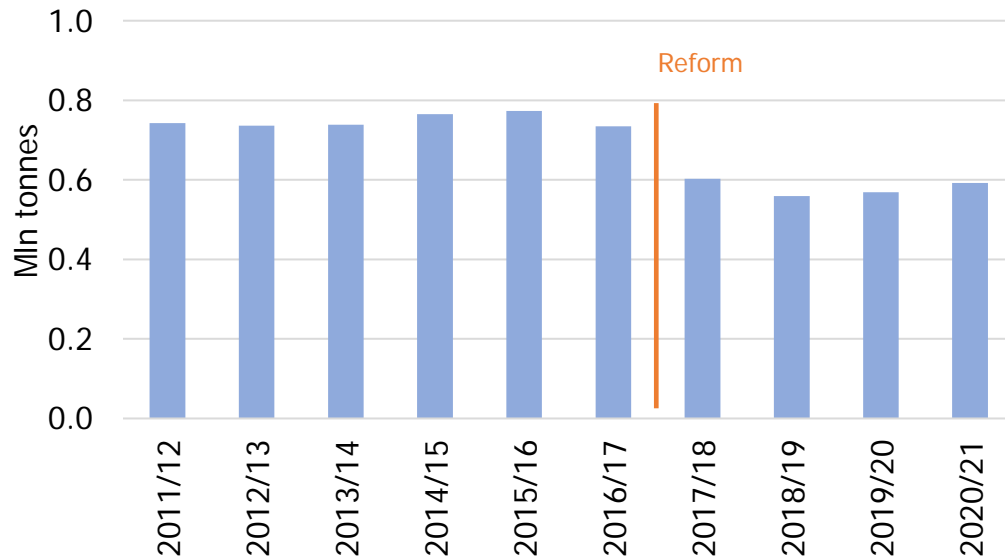


US HFCS Byproduct Price

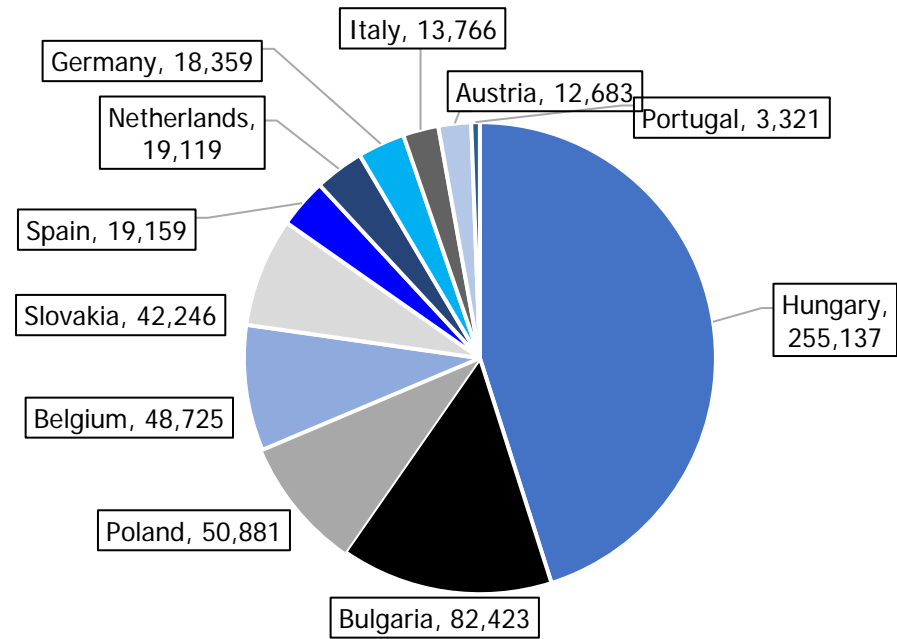


EU Isoglucose

EU Isoglucose Production

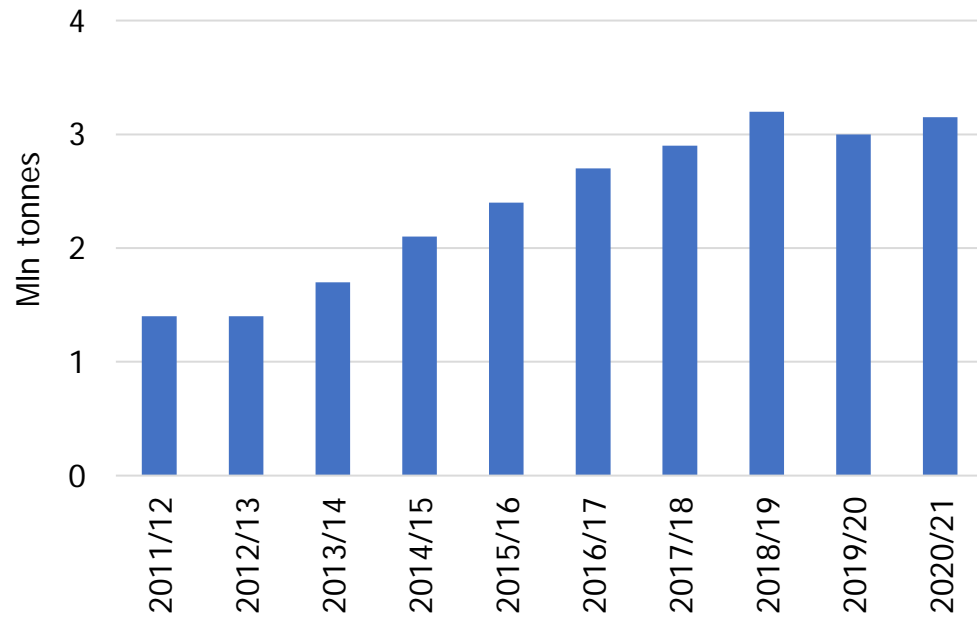


EU Isoglucose Production 2019/20 (tonnes)

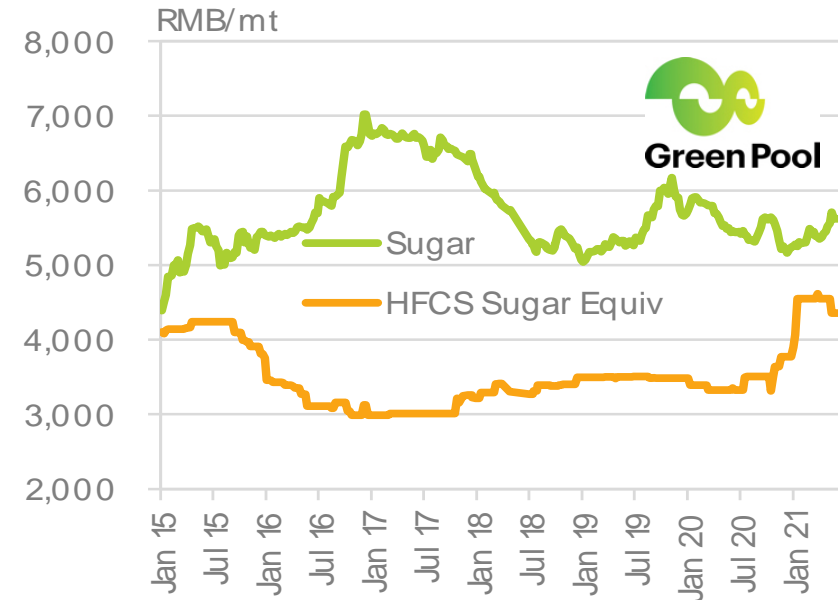


China HFCS

China HFCS Production



China - Sugar and HFCS Prices



HFS Conclusions

US

- HFCS market continues to contract in 2020/21
- Long established trend of shrinking consumption of carbonated softdrinks (consumers drinking more bottled water)

Mexico

- Government measures to curb obesity, including new labelling laws, have seen both per capita and total sweetener consumption trending downwards since 2016/17
- HFCS offtake shrinking

EU

- Small increase in output expected in 2020/21
- Production remains well below production levels seen before abolition of sugar and isoglucose production quotas in 2017

China

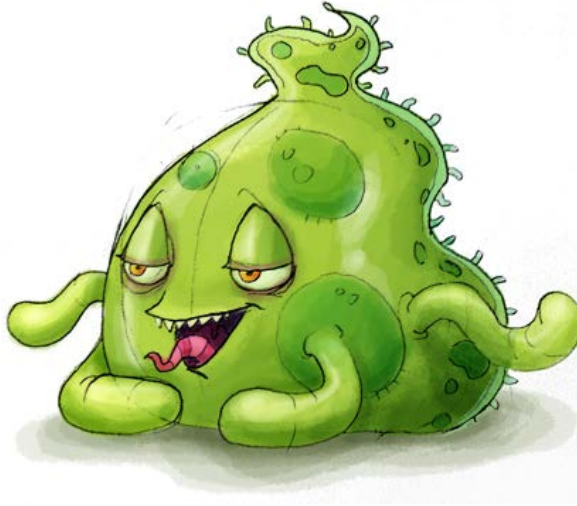
- Sharply increased prices for corn and corn starch pushed HFCS prices higher, prompting expectations for some users to switch back to sugar



Other Alternative Sweeteners



Starch In



GMO
Enzyme/Yeast



Designer
Sweetener Out



Brazzein



Stevia Sweeteners



The stevia sweeteners market has become more complex in recent years:



- **New Cultivars.**
- **Enzymatic Modification.**
- **Fermentation Technology.**



Fermentation Stevia



CargillTM
evolva

Diagram illustrating the production of EverSweet™: A bag of **BAKER'S YEAST** and **SIMPLE SUGARS** are combined in a fermentation tank to produce a **NEW GREAT TASTING ZERO-CALORIE SWEETENER**.

EverSweetTM



DSM
BRIGHT SCIENCE. BRIGHTER LIVING.



Sweeegen



PureCircle
Everything stevia



AMYRIS



realsweetTM



purecaneTM



Ingredion.



Allulose

TATE & LYLE

- Tate and Lyle in February 2015 launched Dolcia prima, its branded **Allulose** sweetener – a rare sugar.



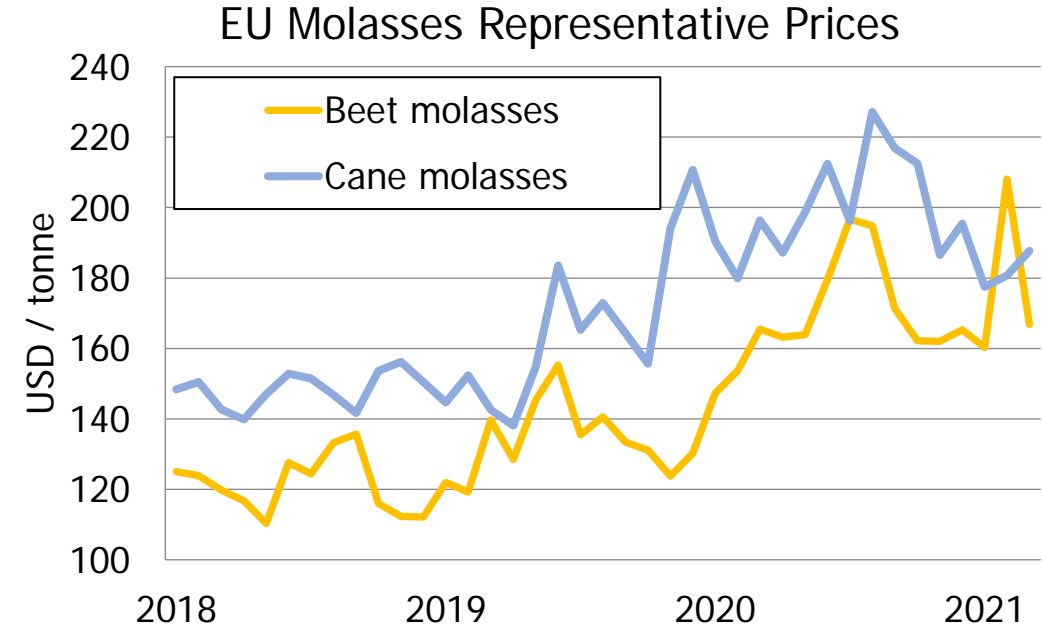
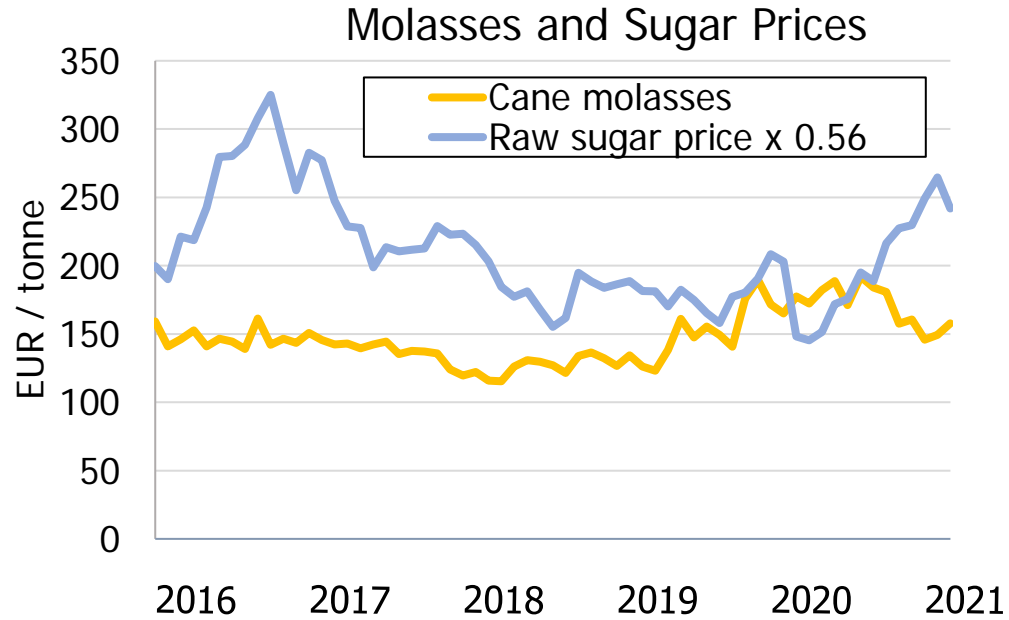
- In July the same year two other producers launched allulose sweeteners too.



Shandong Baolingbao Biotechnology Co.

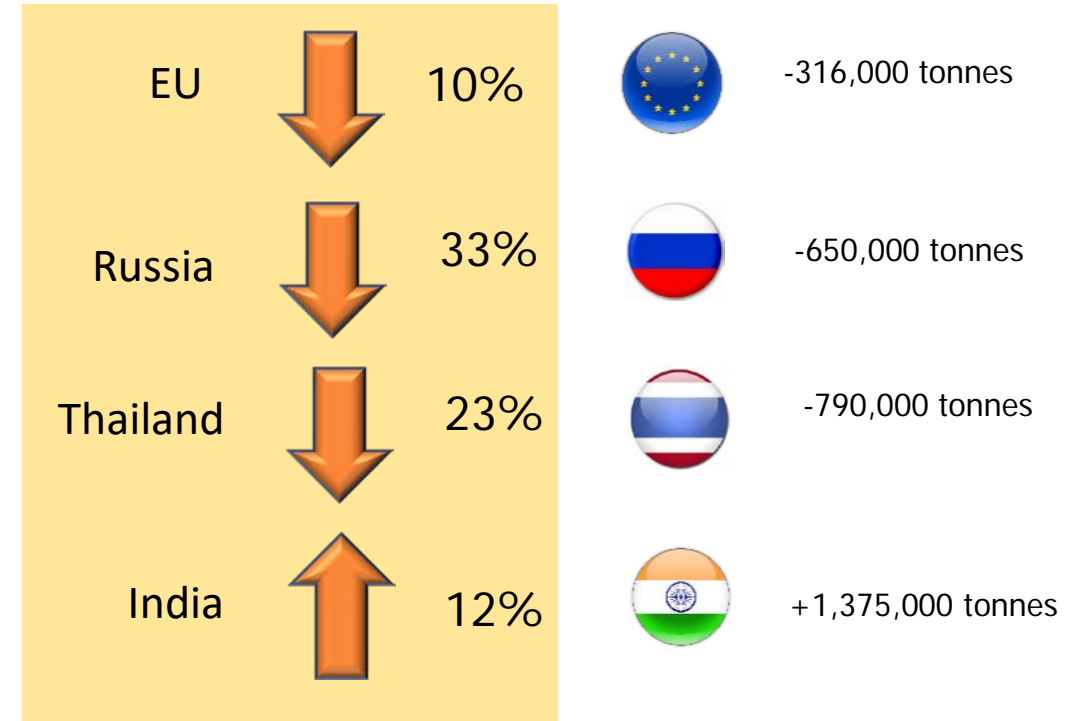
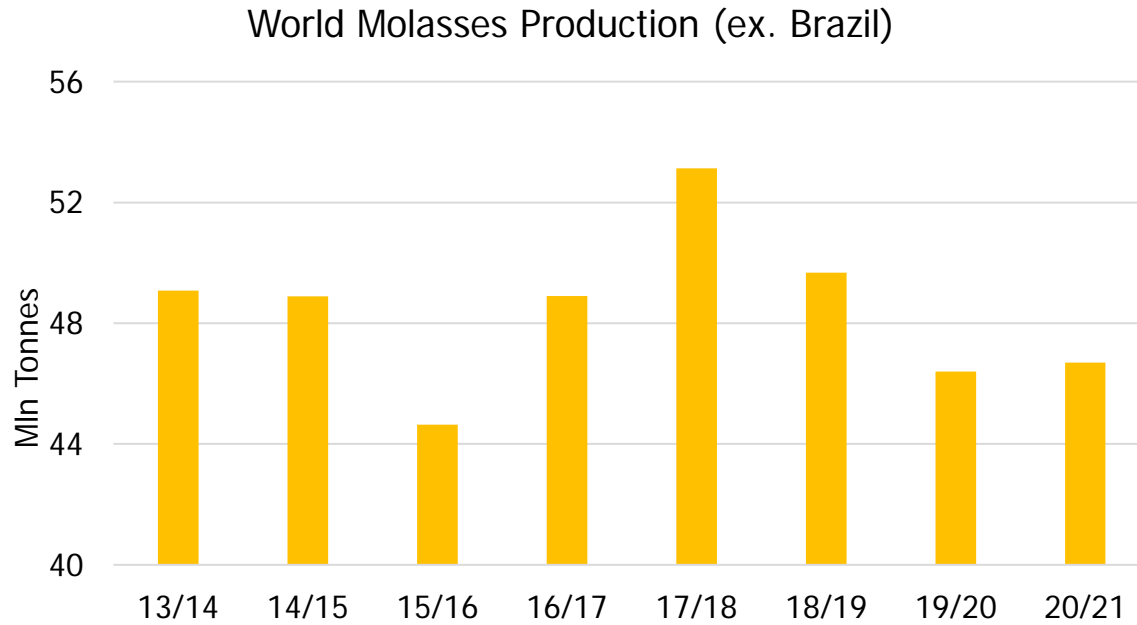


Molasses Prices



Molasses Production

2020/21



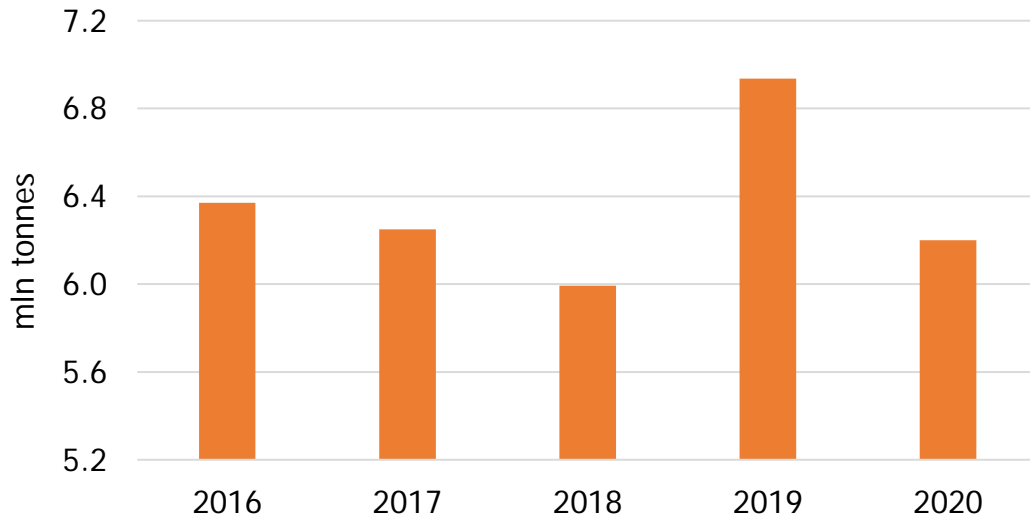


ISO

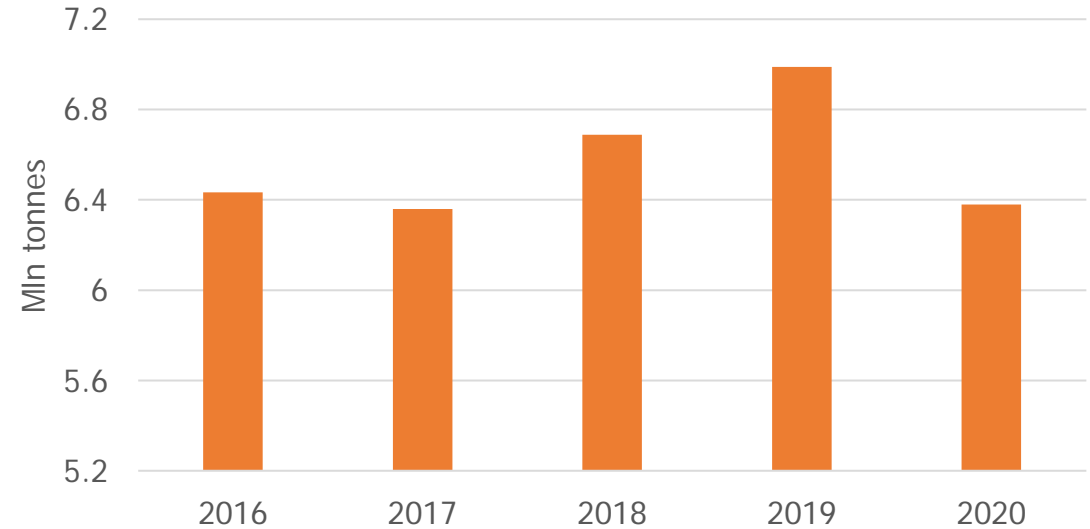


Molasses Trade

World Molasses Exports

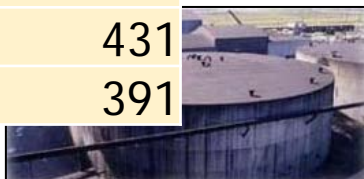


World Molasses Imports



Top Five 2020 '000 tonnes

India	737
Russia	716
Guatemala	438
Indonesia	431
Thailand	391



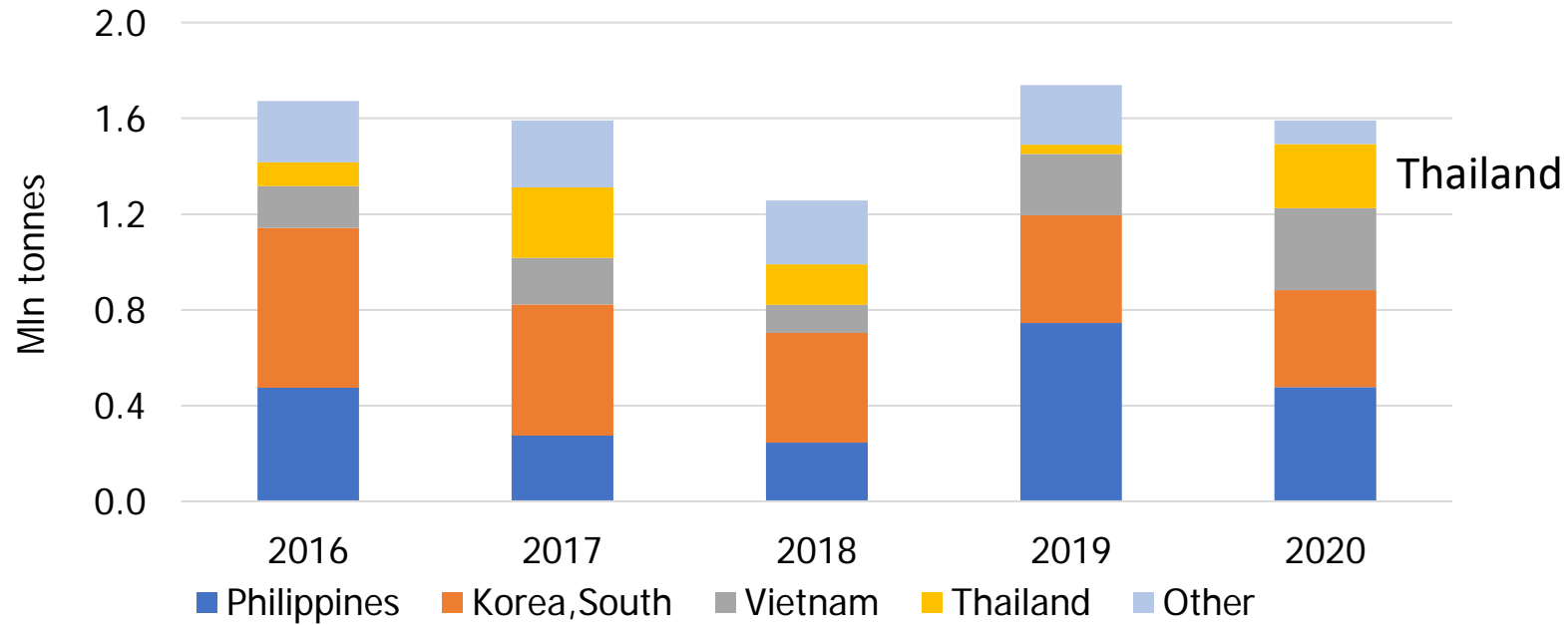
Top Five 2020 '000 tonnes

US	1,072
UK	484
Philippines	478
Turkey	450
South Korea	405



Molasses Trade

Asia Molasses Imports



Molasses Trade

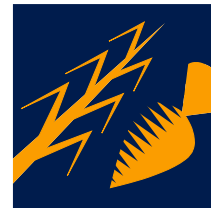
- Global molasses production (excluding Brazil) forecast up marginally in 2020/21
- Firm but easing cane molasses prices cross with rising sugar values
- Limited COVID-19 and African Swine Flu impact on molasses demand
- India's molasses exports higher
- Thailand's exports plummet and imports surge
- Firmer US demand on high corn prices
- EU molasses demand to remain high but supplies lacking



Thank You



Lindsay Jolly



ISO

Expert Consultant