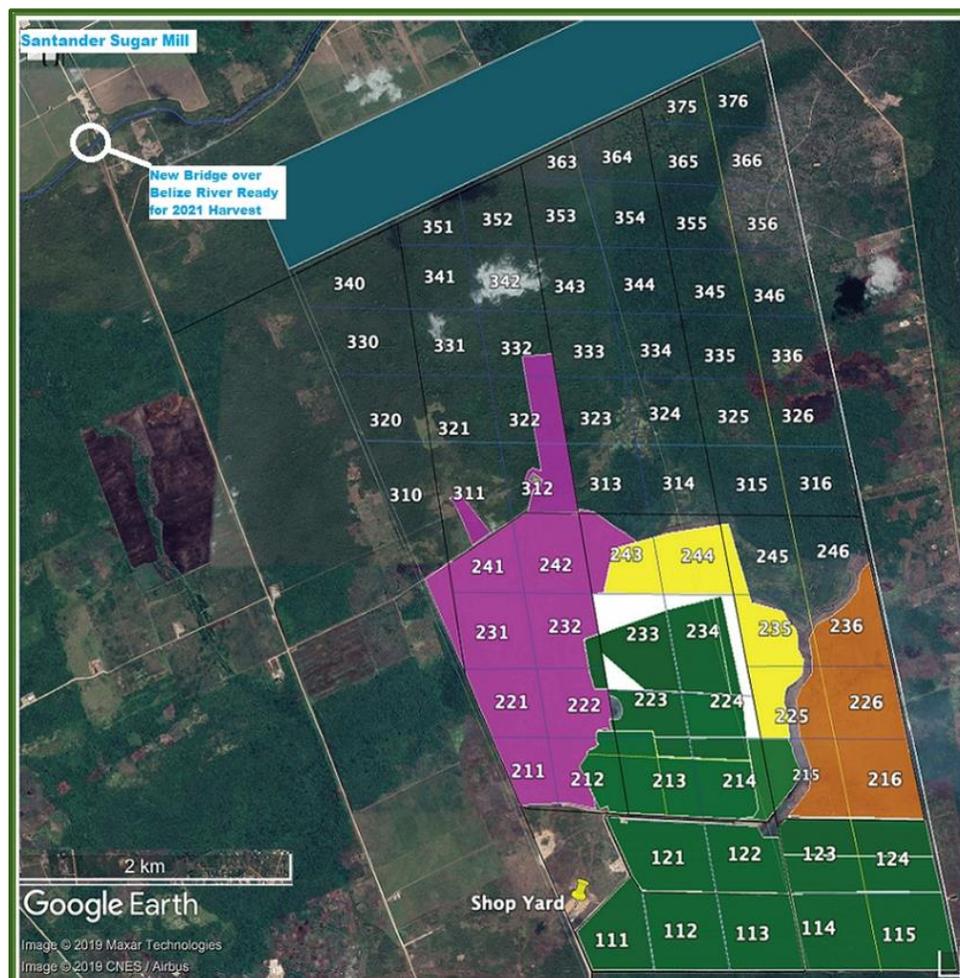


Belize Sustainable Agriculture, Ltd. Farming Report – May 31st, 2020

This is the **Third** quarterly Farming Report for BSA's 2019/2020 Farming season. Its main objectives are to provide information/data about BSA's sugarcane farming activities, climactic conditions, agricultural pests, and market conditions.



Description	Ha
Planted 2020 Harvest 7 Ha Seed 370 Ha Commercial	377
2020 Late Planting (Seed for 2021 Planting)	30
2021 Planting 2022 Commercial Harvest	61
2021 Planting 2022 Commercial Harvest	98
2021 Planting 2022 Commercial Harvest	217
Ph o t o 2021 Clearing 2021 Land Prep. (~250 Ha) 2021 Late Planting (~200 Ha) 2022 Harvest for Seed 2022 Planting (~840 Ha)	1,042
Total Farmable Land	1,825

BSA's Cayo One Estate farm in 2020; it is ~8 miles east of Belmopan near the village of Cotton Tree in the Cayo District.

Weather Summary: 2020 was forecast to see the second drought in a row after 2019's record low rainfall, at least until Tropical Storm Cristobal arrived on May 29th. Cristobal was an unusual storm, coming out of the Pacific, drenching Salvador and Guatemala before skirting Belize, then heading north. 330mm of rain fell on Cayo during the four days of the storm's passage; then a further 320mm of post-Cristobal rain fell on Cayo in June. The 2020 drought forecast now appears unlikely. June 1st is also the start of the Atlantic Hurricane season; NOAA expects above average activity, *sed quis scit*?

Cayo One - Belmopan Precipitation Data (mm per month) as of June 19, 2020													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2020	181	46	16	0	346	390							979
surplus/deficit	41	(22)	(35)	(42)	235	134							311
20 Year Average	140	68	51	42	111	256	241	222	215	286	219	128	1979
2019	82	42	21	54	67	77	56	8	55	210	120	148	940
surplus/deficit	(61)	(27)	(32)	13	(46)	(188)	(195)	(225)	(168)	(80)	(104)	21	(1092)
20 Year Average	143	69	53	41	113	265	251	233	223	290	224	127	2032

You can follow Belize's weather on: <http://www.hydromet.gov.bz/observations/radar/radar-images>

We also use the US NOAA Hurricane Center weather radar network which monitors the Caribbean basin, and recommend:

<http://www.nhc.noaa.gov/>

<https://www.wunderground.com/forecast/bz/belmopan>

Belize Sustainable Agriculture, Ltd. Farming Report – May 31st, 2020

Summary Conclusions

The March through June 2020 period has been the most disruptive in the post-WWII generation’s memory. The Global COVID-19 Pandemic, which was first felt globally towards the end of the February reporting period, has seen extraordinary market volatility, enormous disruption to economies and trade flows, and a freezing up of many capital markets.

Global sugar prices were severely affected by the dramatic falls in the oil price and the Brazilian Real ([see page 15 below](#)). After touching a multi-year high of over 15¢/lb. in February thanks to a combination of cyclical improvement in the supply/demand equilibrium and further secular diversion of sugarcane production to ethanol, raw sugar prices crashed 40% to a low of 9.2¢/lb. in April, pulled down by oil’s >75% price drop and the Brazilian Real’s 45% decline versus the USD.

The Global COVID-19 Pandemic did not spare Belize; the country has had 22 COVID-19 cases reported through June 19th, of which 17 have recovered, 3 remain in non-hospital quarantine, and 2 were fatalities. With only ~58 Cases/1M population and ~5.3 Deaths/1M population, Belize appears to have escaped relatively unscathed from COVID-19. However, this has been at the cost of a severe “Lockdown” beginning in early April, with a strict curfew from 20:00 to 05:00, a complete closing of Belize’s borders to all non-cargo traffic, including returning Belizean citizens, and the closing of most businesses, including vital (for agriculture) equipment and spare parts suppliers. While curfew hours have been relaxed a bit, and some businesses are reopening, Belize’s borders remain closed; they may not reopen until September.

Belize depends heavily on Tourism for employment, government income, and foreign exchange, so the country is suffering heavily from the Pandemic. Government programs to alleviate unemployment and to provide basic food support have been relatively modest as the country remains very “resource constrained”. During these challenging economic times, BSA has kept all of its staff employed, provided them with emergency food supplies, and, thanks to the support of a BSA shareholder and the negotiating skills of our Managing Director, the company was able to make a substantial food distribution in May to needy residents of the villages surrounding the Cayo One property ([see page 8 below](#)).

On a positive note, our partner Santander Sugar began harvesting BSA’s 2020 sugarcane crop at our Cayo One property on April 22nd, 2020. While this was a later start than we had hoped, Santander’s harvesting program was also disrupted by Belize’s Lockdown. Initial harvest efforts were focused on the fields in the northern part of our property, where we have not yet been able to build a proper road infrastructure and thus harvesting equipment has to move on dirt roads. These are also the fields where our yield expectations were the lowest given the planting methodology used in 2019. Nonetheless, the initial results were encouraging and when harvesting was halted due to Tropical Storm Cristobal’s passage in late May we had harvested 41% of the 2020 crop ([see page 5 below](#)).



Drainage Canal along improved road – June 12th



Unimproved Dirt Road between two fields – June 12th

Belize Sustainable Agriculture, Ltd. Farming Report – May 31st, 2020

Heavy rain showers halted harvesting operations at Cayo One on May 19th, and conditions were just ready for harvesting to resume when TS Cristobal struck on May 29th. Both Cayo One and Santander's farms have been affected by the >650mm of rainfall in the 30 days since May 19th; harvesting is unlikely to resume until July due to the current wet ground conditions.

However, Santander has committed to keeping its mill operating until all remaining cane is harvested, even if this means keeping the mill open through August and beyond. Meanwhile, our crop remains in good condition, which is both encouraging and a testament to the resilience of sugar cane. During this process, we continue to strengthen our working relationship with Santander who have proven to be very supportive of our efforts.

New planting will be very limited in 2020 (see below) due to our inability to timely complete our new bank financing as well as the virtual closing of private capital markets due to understandable investor concerns about market volatility and the global economic outlook. We believe that recent improvements in economic prospects, reduced market volatility, and better sugar industry conditions should allow us to make progress with funding in the 3rd quarter of 2020.

Most importantly, we believe that our progress to date with our first commercial sugarcane crop clearly supports the decision to convert our farm to sugarcane production. Completing the planting of the Cayo One property is the key to our company's overall success and we do not consider that there are any material technical or agricultural challenges to finishing the planting; timely and sufficient financing will be the key...

Readers are encouraged to consult our regularly updated website <http://www.belizeag.com/>

2020 Land Development and Planting

2020 Land Development was broken into three phases, as discussed in the February 29th report, progress on which was expected to be a function of access to timely funding.

1) Land needing minor to partial additional development to be ready for 2020 planting

These are the White (30 Ha), Yellow (61 Ha), Orange (98 Ha) and Purple (217 Ha) areas in the map on the first page, totaling 406 Ha.

2) Land requiring full clearing to be ready for 2020 planting if weather and financial circumstances allow

These fields are a subset of the "Photo" areas in the map on the first page, totaling about 250 Ha, which run along the path of "V2 Road".

3) Land requiring initial tree clearing to be ready for 2021 development and planting

These fields are the remaining "Photo" areas in the map on the first page, totaling about 800 Ha, which mostly run along the eastern side of the property (field series 3X4/3X5/3X6) along with a smaller section which runs on the western side of the property (field series 3X0/3X1).

BSA's 2020 Planting Program was again predicated on securing sufficient financing for each of the three stages of land development described above and then having the resources for actual planting and then post planting nutrition and pest management. As explained above, in light of the COVID-19 Pandemic which hit in early March, no additional financing became available although we were able to make modest progress on part of the first phase before heavy rains arrived.

Accordingly, we currently expect to plant, subject to post-harvest weather conditions, the White area and a small section of the Yellow areas, totaling about 40-50 Ha, which will be used for seed for 2021 planting. In the event additional financing becomes available on a timely basis by the end of the 3rd quarter, we would seek to plant the balance of the Yellow area which would also provide seed for our 2021 planting program.

Belize Sustainable Agriculture, Ltd. Farming Report – May 31st, 2020

Another key planting goal for 2020 is to complete “Infill Planting” on existing fields. As the harvest results below explain, the fields originally planted outside of BSA’s direct control, about 200 Ha out of 380 Ha, have shown extensive areas where either “skips” or poor germination, likely due to the original planting methodology, led to fields that had stands with 15% to 35% of unplanted areas. These fields with irregular stands have a direct and significant impact on yields; this is clearly seen below in the difference between the yield on field 122, where 50% of the Infill Planting was completed in 2019, and neighboring field 112 where 0% of the infill planting was completed in 2019 (See page 7 below).

Infill planting is a simple, albeit labor intensive, process. The ideal time for infill planting is shortly after a field has been harvested, and the first shoots of the ratoon crop appear. This makes it easy to identify areas where there have been skips and infill planting is required. The process is then simple: seed is harvested by hand cutting existing canes that are ideally in the 7-10 months of age zone, then further cutting the cane into billets that are 30-40 cm in length. The billets are then planted by two man teams, with one worker making a hole with a stick wherever there is a gap, and then the second worker inserts a billet into the hole and compacts the soil over the hole. Ideal germination occurs when the soil has a good moisture content and the new infill billet is able to germinate within 4-12 weeks of harvest, so that the existing ratoon crop does not overly shade the new billet growth.

BSA estimates that the cost of infill planting a field where the stand shows a 25% shortfall, thus requiring about 3,000 to 4,000 infill billets/Ha, is about USD 200/Ha. Santander Sugar has graciously provided a subsidy to BSA, through a discount against original planting costs owed by BSA to Santander, which underwrites most of the cost of this infill planting. Going forward, notably on fields which are planted using the same field preparation and planting methodology as those used on fields 111,114,115,123,124, BSA does not expect to need to undertake significant amounts of infill planting



Infill planting on field 112 (early June 2020)

First worker makes a hole where infill planting is necessary



Infill planting on field 112 (early June 2020)

Second worker inserts billet into hole and then covers

2020 Crop Nutrition & Pest Management

Nutrition

We have developed programs for both granular and liquid crop nutrition for our sugarcane fields; these nutrition programs will form an integral part of the steps necessary to reach our long term goals of 130 MT/Ha. However, we are still awaiting harvest data from the fields we specifically targeted for nutrition research (114/115/123/124) so that we can narrow our program to those inputs which prove to be the most effective and provide a satisfactory cost/benefit return.

Belize Sustainable Agriculture, Ltd. Farming Report – May 31st, 2020

Weed/Pest Management

Weeds/Grasses continue to be the most likely threat to sugarcane; yet it remains readily manageable through a balanced use of herbicides, mulching, and properly planted sugarcane. The challenge will be the timely application of herbicides, as well as the judicious balance of trash mulching and burning excessive trash. Recent heavy rains may complicate this task. We continue to consider that while Insects/Diseases are potential issues for sugarcane, it is a hardy plant that, with regular inspections and prompt prophylactic action, can generally overcome most insect/disease issues.

We expect to report on our 2020/2021 nutrition grass/pest management programs when we report next quarter.

2020 Crop / Harvest Program as of May 31st

Santander began harvesting on April 22nd and during the 25 days through May 16th when operations paused, Santander harvested about 160 Ha of sugarcane, for a total yield of some 12,566 MT of sugarcane. This relatively modest daily rate was negatively impacted by there being frequently only one harvester working at a time (the goal is two to three working harvesters). The harvest to date represents approximately 41% of our expected crop by volume, although the harvested area is about 47% of the total area we expect to harvest for commercial use (some cane is being set aside for seed). This disparity in actual versus expected yields is because the harvested fields to date were those originally planted without BSA direct supervision. Nonetheless, results to date have averaged about 78 MT/Ha versus our expected range of 65 MT/Ha to 90 MT/Ha.

Once harvest operations resume, we expect to harvest a further ~182 Ha of fields for a total expected additional yield of ~18,000 MT (~99 MT/Ha), for an overall average yield of ~89 MT/Ha. This would be about 5% higher than our 2020 target of 85 MT/Ha. The higher yields on the remaining fields will be driven by the much better stands seen on fields 111/114/115/123/124, which were planted under BSA's direct supervision.

We are also pleased to report that Brix levels from this initial harvest have been very encouraging so far, averaging 19.85° at the field. A refractometer field test was performed on every cart load beginning on April 25th so that we can gauge Brix levels from each field. Brix readings at the mill were lower, averaging 18.60°, but this is likely due to excessive trash being included by the harvesters with our cane (We do not currently control harvester operations). We expect to fine tune this next year, our goal being to raise field brix to 20.5°-21.5° and Mill Brix to >20°. According to BSA's contract with Santander, a 20° Brix reading would entitle BSA to receive an 8% premium on the price we received for sugarcane delivered to Santander, hence this is an important goal!



Field 213 mechanically harvested – May 8th, 2020



Residual trash is cut up and spread on field

Belize Sustainable Agriculture, Ltd.
Farming Report – May 31st, 2020



Carts are unloaded into 30 MT Trailers

Beginning in 2021 Trailers will be <5 miles from Santander Mill



Trailers unloaded at Mill into grinders



Ground sugarcane is conveyed for processing



Ground samples from each field go to Santander Lab for Tests



Santander Sugar Mill operates 24/7 during the harvest/crush season

100% of energy use is fueled by sugarcane biomass / large amounts of electricity are also sold to Belize Power Grid

Belize Sustainable Agriculture, Ltd. Farming Report – May 31st, 2020



Santander's sugar being exported from Belize's Big Creek port - Sugar is Belize's #1 Cash crop

2019/2020 Planting and Harvest Table

Field #	Ha Planted	Yield	Brix at Field	Tons Expected	Tons Harvested	To Be Harvested
111	20.73	100		2,073.00		2,073
112	24.28	76.16	19.86	1,849.16	1849.16	
113	23.5	72.23	19.44	1,697.31	1697.31	
114	23.1	105		2,425.50		2,426
115	24.28	105		2,549.40		2,549
121	26.79	85.04	19.46	2,278.22	2278.22	
122	21.44	83.08	19.36	1,781.13	1781.13	
123(s)	12.14	115		1,396.10		1,396
123(n)	12.14	120		1,456.80		1,457
124(s)	12.14	115		1,396.10		1,396
124(n)	12.14	120		1,456.80		1,457
212(a)	2	117.89	N/A	235.78	235.78	
212(b)	8.2	65		533.00		533
213(a)	4.03	117.89	N/A	475.10	475.10	
213(b)	19.9	80.09	21.39	1,593.79	1593.79	
214(a)	7.5	90		675.00		675
214(b)	7.5	65		487.50		488
214(n)	5.7	90		513.00		513
214(e)	5.7	120		-		
215	8	115		-		
222	2.2	77.69	19.59	170.92	170.92	
223	13.74	77.69	19.59	1,067.46	1067.46	
224	24	70		1,680.00		1,680
232	2.2	87.1	20.87	191.62	191.62	
233	19.75	61.31	19.94	1,210.87	1210.87	
234	18.27	70		1,278.90	492	787
Total Area:	361.37		Average Brix (at Field)	30,472.46	13,043	17,429
Seed Area:	13.7					
Net Area:	347.67		19.85			

A comparison between fields 112 and 121, which are adjacent to each other, clearly shows the impact of infill planting. Both fields have comparable soils, drainage, and received the same nutrition and pest management. No infill planting was done on Field 112 (lack of time and resources), whereas about 50% of the “skipped areas” in Field 121 received infill planting, albeit late in the season (so the infill cane did not have time to fully grow before harvest). This one difference increased yield by ~9MT/Ha (or 11.6%). BSA believes that once all of the original fields have been properly infill planted, yields should rise to the 95-100 MT/Ha level, before any additional benefits accrue from enhanced nutrition programs. So these early data provide solid validation for our M/T goals of 100-105 MT/Ha and our L/T goals of 130 MT/Ha

Belize Sustainable Agriculture, Ltd.
Farming Report – May 31st, 2020



Belize Sustainable Agriculture Ltd. donates Food Relief
400+ Households affected by COVID-19 in neighboring villages benefit

PRESS RELEASE

Belmopan, Cayo District, Belize

May 7th, 2020

Belize Sustainable Agriculture Ltd is a sustainable farming operation encompassing some 5,000 acres of farmland located along Mile 41 on the George Price Highway in Belize's Cayo District. BSA is in the process of converting its entire farm to sugarcane production, with some 1,000 acres planted in 2019 currently being harvested. BSA expects to have all 5,000 acres planted in sugarcane within the next 24 months. 100% of BSA's sugarcane production is sold under a long term supply contract to Santander Sugar, Cayo District's largest private employer, and one of Belize's most important industrial activities.

BSA's management team and staff is almost entirely composed of Belizeans and the company provides direct employment to over 40 people who mostly live in the villages surrounding its farm: Cotton Tree, Harmony Ville, More Tomorrow, and St. Mathew's.

BSA is deeply sensitive to the severe challenges faced by many of its neighbors due to the economic slowdown brought on by the country's response to the COVID-19 global pandemic. First and foremost, BSA has continued to keep all of its staff fully employed throughout the current crisis, allowing them to continue to look after their families.

However, BSA is also aware that many families in neighboring villages have lost their employment through no fault of their own. In order to try and supplement government food assistance programs, BSA recently acquired over 3,000 lbs. of red beans and white rice as food relief for hard hit families living in neighboring villages. The company has organized the distribution of this food working with the various chairpersons of each village, who will then be responsible for identifying and distributing the food to the neediest households and families. This food relief is being offered exclusively to those persons who either recently lost their jobs or did not qualify for the government's assistance program. An estimated 400+ households will receive red beans and white rice to assist them in sustaining their families in Cotton Tree, Harmony Ville, More Tomorrow, and St. Mathew's.

BSA is grateful to both the Indian Creek Development Company and the 5 Star Rice Company, each of which offered substantial discounts for the bulk purchase of red beans and white rice; this allowed BSA's budget to stretch further in helping to provide much needed food relief to its neighbors.

The CoViD-19 pandemic has affected the entire world, causing severe economic and human distress to millions of people everywhere. BSA has not escaped unscathed, as the global price of sugar has fallen more than 30% since the end of February 2020, at a time when the company is in the middle of a major investment program. Nonetheless, BSA joins Belize's population in hoping that the country will soon be able to return to better economic times and the company hopes to continue to grow as a local Cayo District employer with a strong and demonstrated commitment to the welfare of its staff, its neighbors, the local environment, and the country of Belize.

Belize Sustainable Agriculture, Ltd.
Farming Report – May 31st, 2020

Food Distribution Meetings – May 7th, 2020

Hazel Kuylen – BSA Human Resources Manager / Jonathan D'Silva - BSA Government Affairs Manager



Cotton Tree and Harmony Ville – Chairman Oscar Otero May 7, 2020 (374 families)



More Tomorrow Village – Chairman Michael Myvette May 7, 2020 (32 families)



St. Mathew's Village – Chairlady Esperanza Arianza May 7, 2020 (60 families)

Belize Sustainable Agriculture, Ltd. Farming Report – May 31st, 2020

2020 Sugar Market Conditions

The three months since our last report published in early March have seen truly extraordinary developments in global sugar markets as well as in those of the other major markets which impact sugar, namely the oil price and the US Dollar / Brazilian Real exchange rate. The ICE#11 contract fell nearly 40% from a February high of over 15 cents/lb. to an April low of 9.2 cents/lb. (lowest price since 2007). ICE#11 has since recovered half of its loss to stand at a little over 12 cents/lb. The price of oil, as expressed by the April NY futures contract, actually fell more than 100% from February's \$50 level (the price was negative for two trading days in April!); the Brazilian Real fell from February's BRL 4.25/\$ level to touch a low of nearly BRL \$6.00 /\$ in April. Both crude oil and the BRL have recovered a substantial portion of their losses since the April lows but remain well below their February levels.

Prior to the CoViD-19 Pandemic's explosion onto the world scene, the global supply/demand balance in sugar was returning to a more favorable situation, which in turn led to sugar's price improvement in Q1 2020. Sugar had broken through its long term downtrend and was looking to settle at or above its 5 year average price of ~15 cents/lb. The Pandemic's turmoil has now derailed this new trend, although we consider that many long term factors remain positive and we believe that it is opportune to revisit the key suppliers and markets, including the European Union. The EU is particularly important as it is likely to remain the key export market for BSA's core partner Santander Sugar.

1) **Brazil**, the world's dominant sugarcane producer, has now completed the 2019/2020 campaign, harvesting some 643 million MT of sugarcane (+3.6% vs. 2018/2019) from 8.4 million Ha (-1.8% vs 2018/2019). Ethanol (Hydrous and Anhydrous) produced from sugarcane reached a new record of 34 billion liters (+5.1% vs 2018/2019). Sugarcane usage was split roughly 65% for Ethanol and 35% for Sugar and derivatives in 2019/2020. The first half of 2020 was also scheduled for the launch of Brazil's ambitious new CBios program, whereby fuel retailers must purchase "Bio-Credits" to offset selling hydrocarbon fuels (e.g. gasoline from crude oil); this program is expected to further reduce Brazil's gasoline consumption and further strengthen Brazil's secular demand for ethanol.

However, the long term trend in Brazil's steady increase in ethanol production and reduced sugar production was sharply interrupted when the oil price collapsed in March/April 2020, and, following the Pandemic and lockdown, Brazilian demand for motor fuels fell by 50% which in turn led the price of ethanol to halve in April/May 2020. These dramatic market movements, as seen in the graphs below, accompanied by substantial weakness in the Brazilian Real, changed market conditions so powerfully that sugar mills had a strong incentive to reverse their hedges (the more sophisticated mills are structurally "Long Sugar" and "Short Oil"). These same mills then began to materially change their production plans to take advantage of the relative (and hopefully short term) attraction of producing sugar versus ethanol. The USDA, in its April 2020 Annual Brazil Sugar forecast, indicated it now expects Brazil's ethanol/sugar allocation to drop to 54/46 from 65/35 for the 2020/2021 market year. This forecast has been confirmed by early data from UNICA, Brazil's sugar cane industry association. This change in crush allocations, if continued for the entire year, would in turn cause Brazil to produce an additional 10 million MT of sugar; this additional tonnage would find its way onto global markets, likely depressing prices. Indeed, some of this increased production may already have been hedged by larger Brazilian mills as open interest in long dated sugar futures is higher than normal.

Going forward, the key questions regarding Brazil's impact on global sugar prices in 2020 are:

- Will sugarcane production increase/decrease materially in 2020/2021 vs 2019/2020?
 - ✓ *The USDA estimates Brazil's production at ~650 million MT (+1%), so unless production is materially higher Brazil's sugarcane production per se should not unduly weigh on global sugar prices.*

Belize Sustainable Agriculture, Ltd.
Farming Report – May 31st, 2020

- How will Brazil's sugarcane production be allocated between ethanol and sugar?
 - ✓ *This is the KEY question. Crude oil likely needs to return to at least \$40-\$45/barrel, the USD/BRL to <4.50, and Brazilian motor fuel demand needs to recover to >80% of pre-pandemic levels for the ethanol/sugar allocation to return to 60/40 or better. So there is some way to go before markets can sound the "all clear" in terms of additional Brazil sugar supplies weighing on global prices.*

- What other factors could weigh materially on Brazil sugar production?
 - ✓ *A successful launch of the CBios program in Q3 2020 would likely further increase demand for ethanol versus gasoline in Brazil by providing a CO₂ offset subsidy to ethanol producers, thereby allowing them to price their product more competitively versus gasoline. As >80% of Brazil's private vehicle fleet now has "Flex-fuel" engines capable of running on 100% ethanol, and the Brazilian consumer is very savvy at doing "fuel efficiency arbitrage", "cheap ethanol" could materially boost ethanol demand. A 20% increase in Brazilian ethanol usage from 2019's level of 34 billion liters would absorb a further 61 million MT (9.4%) of Brazil's total sugarcane output. This would remove some 7 million MT of potential Brazilian sugar supply.*

In summary, the short term prospects for Brazil's impact on global sugar prices are difficult to discern, especially given extraordinary volatility levels in so many markets. After clearly applying downward pressure on sugar prices in the mid-March to mid-May period, it appears as if the price dynamics have somewhat changed and Brazilian mills are no longer hedging future sugar production as aggressively. However, another sharp drop in the oil price, or a further decline in the BRL could restart the hedging process.

Longer term, the case for growing diversion of Brazil's sugarcane production to ethanol remains clear. Not only is ethanol a renewable transport fuel which supports Brazil's economy and saves precious hard currency, but it is also a clear path towards Brazil's cities improving their air quality as well as helping Brazil meet its 2015 Paris Climate Accord CO₂ emissions goals. Indeed, recent studies have shown how Sao Paulo's air pollution levels have declined markedly, falling to 16 µg (micrograms)/m³ of particulates versus a WHO maximum level of 25 µg/m³. It is noteworthy that, depending on the scientific reference (of which there are several), ethanol reduces CO₂ emissions from vehicle engines by 25% to 60% versus gasoline.

- 2) **India**, the world's second-largest sugarcane producer, reported on May 15th through the India Sugar Trade Association (ISMA) that sugar production continued its sharp Year-on-Year decline with production falling by -19% y/y to 26.465 MMT during Oct-May. The sharp decline in sugar production in the 2019/2020 year has been principally due to a poor 2019 monsoon season which led to drought conditions during the sugarcane growing season. This year, however, the 2020 monsoon season has begun well, and seasonal rainfall is expected to return to normal ranges.

The USDA has upgraded its 2020/2021 India sugarcane crop forecast to 381 million MT, harvested from 5.43 million Ha, a 3% increase versus 2019/2020 although still below 2018/2019's records of 402 million MMT harvested from 5.55 million Ha. Total 2020/2021 Indian sugar production is forecast at 33.7 million MT, versus 28.9 million MT in 2019/2020 and 34.3 million MT in 2018/2019. The USDA further forecasts that 2020/2021 Indian sugar consumption will grow to 28.5 million MT and that India will again export 5 million MT of sugar in 2020/2021, the same as in 2019/2020 and slightly higher than the 4.7 million MT exported in 2018/2019. The Government of India is providing an export subsidy of ~\$137/MT to sugar mills to compensate them for the high fixed price which they are required to

Belize Sustainable Agriculture, Ltd. Farming Report – May 31st, 2020

pay sugarcane farmers (~\$36.25-\$41.50/MT, varies by State). India is currently the object of a WTO complaint (DSB 581) over these subsidies, initiated by Guatemala but joined by many other sugar producing countries, alleging that India's subsidies are illegal under WTO rules. The WTO panel is expected to rule in the second quarter of 2021.

The challenge for India is that there are an estimated 50 million Indians engaged in sugarcane farming, making sugarcane the second largest agricultural employer after cotton. Sugarcane, under current conditions, is also one of the most profitable crops for Indian farmers. So these sugarcane farmers and laborers, working on farms which average only about one hectare, are a powerful, and often vocal, political force, notably in the key states of Uttar Pradesh and Maharashtra. Thus GOI and the key producing States are often politically compelled to fix a high minimum price for sugarcane to support farm incomes, while also needing to find alternative mechanisms to ensure the viability of sugar mills. This "price management" makes it difficult for market mechanisms to adjust India's production levels to match more closely domestic demand and global market conditions...

In summary, the short term prospects for India's impact on global sugar prices remain continued supply of ~5 million MT per year, which are likely to go to Asia and the Middle East.

Longer term, the key to absorbing India's current excess sugarcane production and to providing a market for future increased production is, as with Brazil, ethanol (which will also help India with its urban air pollution crisis). Unlike Brazil, ethanol is a new factor in India, as it is only since 2019 that ethanol can be made from sugar cane juice (as opposed to molasses) and that GOI has provided a floor price that will allow mills to make a profit from ethanol using the expensive sugarcane they are required to purchase from farmers. Since February 2020 GOI has set a floor of ~\$0.78/liter for ethanol and has been pushing domestic fuel distributors to increase the ethanol blend in gasoline to 10% by 2022 from the ~5% achieved in 2019. This increased ethanol use would divert some 15 million MT of sugarcane (4% of production) to ethanol production. Longer term, GOI's goal is to increase ethanol blends to 20% by 2030, which would divert a further 30 million MT of sugarcane to ethanol production.

- 3) **Thailand**, the world's fourth-biggest sugarcane producer (China is the 3rd but still remains a net sugar importer), confirmed the continuing impact of the 2019 drought, with 2019/2020 sugarcane production now expected to drop to 76 million MT from 2018/2019's 132 million MT. This has led to 2019/2020 Thai sugar production falling to 8.3 million MT from 2018/2019's 14.2 million MT. The latest USDA forecast for 2020/2021 expects sugarcane production to increase back to 120 million MT and sugar production to rise to 12.9 million MT. Importantly, Thai sugar stocks will have fallen dramatically from their December 2018 high of 8.3 million MT to 2.9 million MT by December 2020.

Going forward, Thailand has recently begun to allow market forces to impact farmers' decisions, who have responded to the sharp drop in the domestic sugarcane price (to 750 Baht/MT in 2019/2020 from 950 Baht/MT in 2017/2018) by decreasing sugarcane planting in favor of planting cassava, corn, and fragrant rice, the price of which have all risen considerably versus sugarcane. However, the Thai government has had to approach this new liberalization cautiously, as sugarcane farming is estimated to employ some 1.5 million people in rural Thailand.

Ethanol has also begun to play a part in Thailand's sugarcane industry, with 2019/2020 sugarcane use for ethanol estimated at 2.8 million MT. Thailand has laid out aggressive goals for biofuels in its 2018-2037 plan, seeking to reduce GHG emission as well as mitigate air pollution, for which Bangkok is notoriously famous. Unfortunately, the Thai plan will only gradually impact sugarcane use; the historic split of sugarcane revenues on a 70/30 basis between farmers and mills make it difficult to undertake the substantial investment required for ethanol plants.

Belize Sustainable Agriculture, Ltd. Farming Report – May 31st, 2020

In summary, the short term prospects for Thailand's impact on global sugar prices remain continued supply of ~11 million MT per year, almost all of which are likely to go to Asia and ASEAN markets due to tariff preferences. What will be a relief to the global sugar market is that, thanks to the 2018/2019 drought, which continued into early 2020, there will no longer be a potential 5 million MT of additional Thai supply from efforts to reduce the country's excessive stocks. Moreover, the desire of Thai farmers to pursue more profitable crops should, over time, also remove a potential source of oversupply from the market's calculus.

Longer term, Thailand can maintain its #2 position as a sugar exporter without unduly burdening global markets thanks to gradual increases in sugarcane being diverted to ethanol production. Once again, the double benefit of reduced GHG emissions and improved urban air quality provide powerful secular arguments for ethanol production from sugarcane. The conundrum will remain finding a revenue sharing solution that can satisfy farmers while supporting the investments necessary to create substantial ethanol production capacity.

- 4) The EU Agriculture and Rural Development Agency data confirm that 2019/2020 EU sugar production will total 17.3 million MT (-1.6%), from 1.534 million Ha (-5.5%) of sugar beets (sugar beets represent 98.4% of total EU sugar production). EU imports of raw sugar in 2019/2020 were ~1.5 million MT (+10%), of which 51% came from ACP countries (such as Belize) under the "0% tariff on Everything But Arms" preference (Data for 2019/2020 and 2020/2021 forecasts will continue to include the UK). Ending EU sugar stocks stood at 1.17 million MT (USDA data), their lowest level in five years.

2020/2021 EU forecasts assume a further 30,000 Ha (-2.0%) reduction in sugar beet planted areas, but with yields returning to their 5 year average thanks to an improvement in climate/rainfall conditions. Thus EU sugar production would rise to 17.7 million MT (+2.3%) despite the decrease in planted area. 2020/2021 EU sugar consumption is forecast to remain unchanged at 18.6 million MT, with refined sugar exports of 1.5 million MT, for total sugar consumption of 20.1 million MT. The 2.4 million EU sugar deficit versus EU production is expected to be met by raw sugar imports of 1.5 million MT and refined sugar imports of 0.6 million MT, as well as a 0.3 million MT decline in sugar stocks. This last would bring EU sugar stocks down to 0.85 million MT, a very low level by historical standards.

A possible "Wild Card" in EU 2020/2021 sugar production comes from early reports of significant insect pressure in France, Belgium, the Netherlands, and the UK; these insects could be powerful vectors of Beet Yellow Viruses, which can reduce sugar beet yields by 25%-50%. The EU's 2018 decision to ban neonicotinoids ("neonics") in most of its developed economies has severely restricted options for European farmers to counter the aphids which so often bear these damaging viruses. A 10% decline in yields due to Beet Yellow Viruses in the EU's developed sugar beet economies could increase the EU's 2020/2021 sugar deficit by an additional 1.5 million MT. In light of the EU's high sugar tariff barriers, the EU's need for greater sugar imports might in turn increase the premium EU refiners pay to ACP countries for their "0 tariff Raw Sugar".

In conclusion, sugar market conditions in Q2 2020 have been very challenging, principally due to the COVID-19 Pandemic, the oil price collapse, and the dramatic weakening of the Brazilian Real. However, absent a worsening of the Pandemic, the medium and long term trends that saw sugar prices rise in Jan-Feb 2020 to above the 15 cents/lb. level could well return in the coming months. Belize will also continue to be in a privileged position as a 0% Tariff supplier to the UK and the EU, and its raw sugar exporters may be able to benefit from a significant market disruption. So it will be important to "Watch the Aphids" in northern Europe in the coming six to eight weeks...

Belize Sustainable Agriculture, Ltd.
Farming Report – May 31st, 2020

Sugar Price (ICE #11 Raw Sugar Futures) – 1 Year through June 12th, 2020

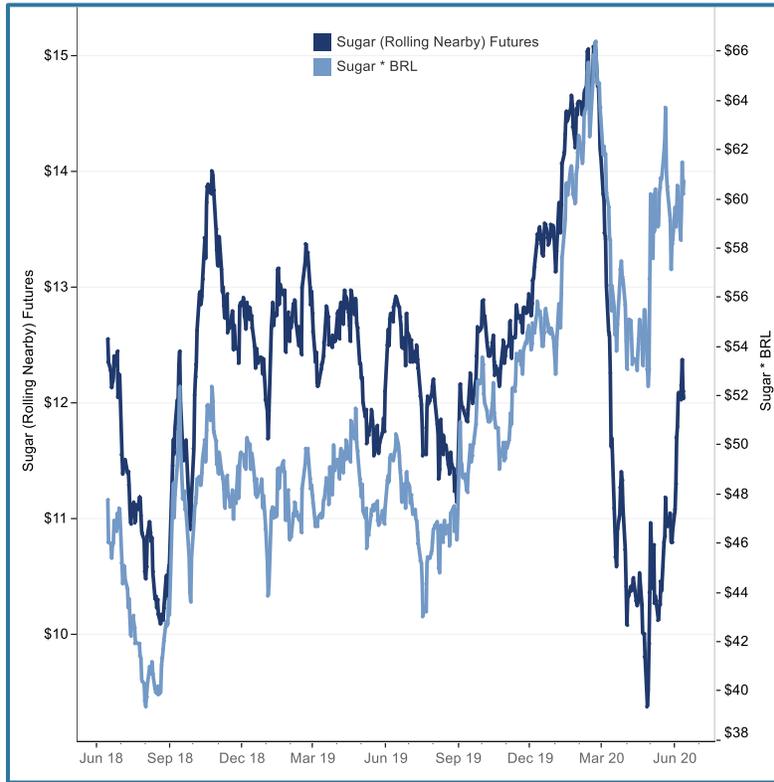


Sugar Price (ICE #11 Raw Sugar Futures) – 10 Year through June 12th, 2020

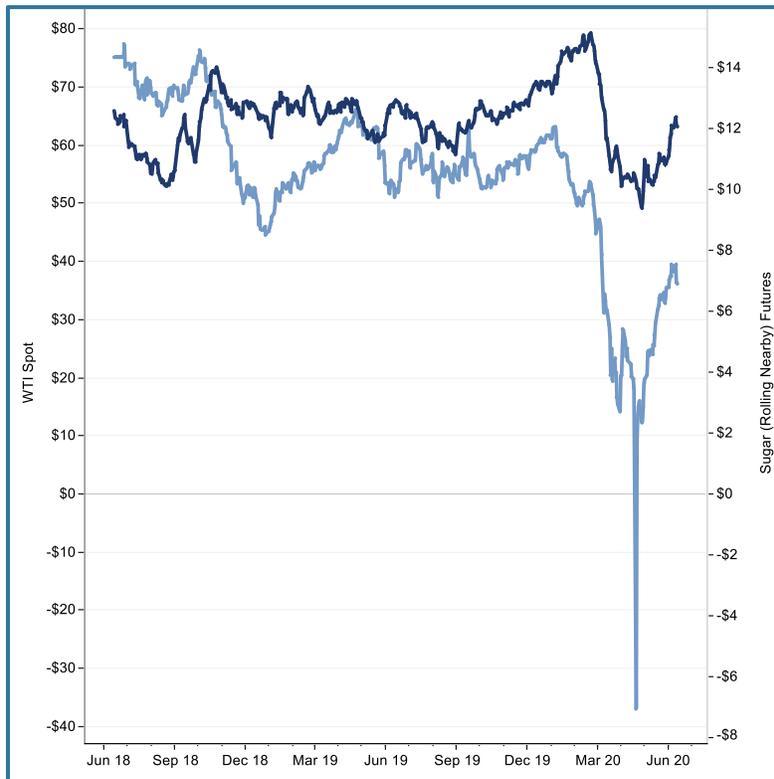


Belize Sustainable Agriculture, Ltd.
Farming Report – May 31st, 2020

Sugar Price in US Dollars (USD) and Brazilian Reais (BRL)



USD Sugar price compared to USD Crude Oil price



Belize Sustainable Agriculture, Ltd.
Farming Report – May 31st, 2020

USD Oil Price (West Texas Intermediate)



USD / BRL Exchange Rate



