Required Report: Required - Public Distribution **Date:** June 29,2020

Report Number: GT2020-0012

Report Name: Grain and Feed Annual

Country: Guatemala

Post: Guatemala City

Report Category: Grain and Feed

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Report Highlights:

Guatemala is close to being self-sufficient in white corn production, and harvested area continues growing. Guatemala is a net rice importer, and harvested area is shrinking. There are WTO quotas for white corn, yellow corn, paddy rice, and milled rice.

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LIST OF ACRONYMS

ANAGRAB	Corn Producers Association
ARROZAGUA	Rice Producers Association
CAFTA-DR	Central American and Dominican Republic Free Trade Agreement
CY	Calendar Year
DIACO	Consumer Attention Direction
DIPLAN	Planning Direction
FSI	Food, Seed, and Industrial
FTA	Free Trade Agreement
H	Hectare
ICTA	Institute of Agricultural Science and Technology
MAGA	Ministry of Agriculture, Livestock and Food
MINECO	Ministry of Economy
MT	Metric Ton
MY	Marketing Year
SAT	Tax Superintendence
TDM	Trade Data Monitoring
TRQ	Tariff Rate Quota
TY	Trade Year

Rice

Production:

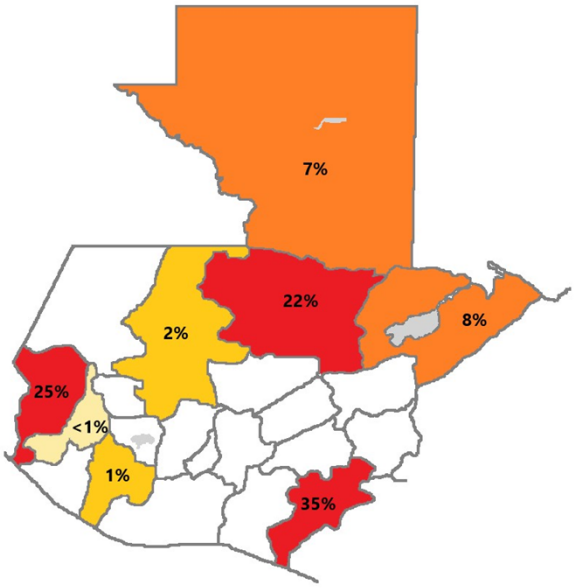
Guatemala rice production is expected to shrink to 26,000 MT in MY2020/2021, down 4 percent from MY2019/2020. The estimate for MY2019/2020 is 27,000 MT, down 22 percent from the previous estimate. The harvest in MY2018/2019 was 33,000 MT, down 3 percent from the previous estimate. Yields have been declining from 6.6 MT/ hectare (Ha) in MY2018/2019 to 5.4 MT/Ha in MY2019/2020 and are expected to drop to 5.2 MT/Ha in MY2020/2021.

The potential area for rice production in Guatemala is estimated to be 521,773 hectares based on the following criteria: 1,600-3,000 meters above sea level; 600-2,000 millimeters (mm) of precipitation; temperatures between 10-20°C range; and soil with good drainage, a pH between 5-7.5, and with less than 32 percent steepness. Harvested area has dropped by half in the past 10 years, from 11,000 hectares to about 5,000 hectares.

Production is distributed in eight departments (a department in Guatemala is equivalent to the concept of a state in the United States) of the country over roughly 5,000 hectares. Figure 1 shows the production distribution in those eight sites. The average national yield is between 5.4 and 6.6 MT/Ha, with some of the large farmers with more technology (laser leveling and irrigation from nearby rivers) producing up to 8 MT/Ha (in areas such as Jutiapa, Suchitepequez and San Marcos) and small producers with lower technology producing 3 MT/Ha. As a rule of thumb, the higher yields come from the producers in the in-quota system, that have a secured market and can invest more in technology. These high-tech producers are mainly located in Jutiapa, San Marcos, and Alta Verapaz.

Small producers represent 29 percent of the national production and large farms produce 71 percent. Small producers rely exclusively on the rainy season and storms to flood their production fields but are completely vulnerable during droughts; large producers can reduce the drought impact through irrigation. Some of the medium sized farms practice intercropping with corn and green tea. Many of the small farms are also intercropping and/or reducing rice production and converting areas to produce plantains, bananas, mango (Tommy variety), and mangosteen, as illegal rice imports are negatively impacting the competitiveness of local production.

Figure 1
Guatemalan Rice Producing Departments and their Share of Production in MY2019/2020



Source: USDA Design with Information Shared by the Rice Producers Association (ARROZGUA), 2020

Production on each site is classified by whether it is in-quota or out-of-quota. In-quota is the production that fulfills the national harvest purchase agreed under the Central American and Dominican Republic Free Trade Agreement with the United States (CAFTA-DR). In this system, producers sell to mills at better prices than those under out-of-quota system. Producers participating in the out-of-quota system do not participate in the national harvest purchase and rely on intermediaries to sell to the mills, significantly sacrificing sale prices. Table 1 shows the rice harvest distribution of the in-quota vs. out-of-quota system for MY2020.

Table 1
MY201/2020 In-Quota vs. Out-of-Quota Estimated Harvest

	In-Quota System	Out-of-Quota	Total
Department	Quota	MT	MT
Jutiapa	5,589	856	6,444
San Marcos	4,267	298	4,565
Alta Verapaz	3,050	1,086	4,136
Izabal	-	1,548	1,548
Peten	-	1,372	1,372
Quiche	-	317	317
Suchitepéquez	193		193
Quetzaltenango	28		28
	13,126	5,477	18,603

Source: USDA Table with Information shared by ARROZGUA, 2020

Registered rice varieties with the Ministry of Agriculture, Livestock and Food in Guatemala (MAGA) are Clearfield, CFX-18, Tenpisque, Inta, and Puita. The last use of U.S. genetics dates to 2015. Small producers use some conventional varieties such as Lasarroz, Nayudel, Nayuribe, Isla, Cristal, ICTA Jade, Costa Rica, CR-4477, Cypres, Palma Real, Super Motagua, ICTA-ARROZGUA 09, COLOMGUA, among others. Figure 2 shows a rice plantation and a rice crop in Guatemala.

Figure 2
Rice Plantation and a Rice Crop in Guatemala

Source: ARROZGUA, 2020

The harvest takes place from May to January, with 71 percent of the harvest occurring between May and November. There are two harvests per year:

- Summer Harvest: This harvest mostly occurs in the Atlantic Coast in the departments of Alta Verapaz, Izabal, and Peten; in humid tropical zones around the Motagua River Valley in Izabal; and the Polochic River in Alta Verapaz and Izabal. Planting occurs from December to February and harvesting from March to April. The Peten region has vast humid tropical zones. In these zones, it can rain up to 11 months per year and production is sold in the out-of-quota system. Jutiapa, San Marcos, and Quiche also participate in this harvest. The summer harvest accounts for 29 percent of the total harvest.
- Winter or Rainy Season Harvest: This harvest occurs along the Atlantic and Pacific Coasts and in the Eastern zone. To harvest in winter, as the rainy season is called in Guatemala, planting must be done from May to July (at beginning of the rainy season) and harvest from August to November. This harvest season represents around 71 percent of the total harvest. In addition to the Atlantic Coast, production occurs along the Pacific Coast, which is a dry tropical zone, in the departments of San Marcos and Suchitepequez and the Eastern Coast, a dry subtropical region, in the department of Jutiapa. Producers in these regions depend on the annual tropical storms that normally flood the areas.

Yields vary in each region according to the variety used and overall management. As a rule of thumb, the El Niño phenomenon reduces yields due to the extended drier periods in Guatemala. There have been irregular rains in MY2019/2020, compared to droughts in MY2018/2019. Not only does the rain affect the production but also the milling quality of the crop. The drier the season, the more pests and diseases affect the crop. The main pests are rice root bug (*Blissus leucopterus*), army worm (*Spodoptera frugiperda*), rice aphid (*Sogotodes oryzicola*), mole cricket (*Neocurtilla hexadactyla*), black drone, and wire worm. The main diseases are *Piricularia oryzae*, *Helmintosporium*, false carbon in rice (*Ustilaginoideda virens*), pod rot (*Saracladium sp.*), and pod blight (*Rhizcotonia solani*).

Production costs in Guatemala vary according to the production system, mechanization level, fertilization, and presence of pests and diseases. Table 2 shows the estimated production costs for rice production in Guatemala.

Table 2
Rice Production Costs in Guatemala for a Mechanized Farm

Activity	Costs (US$/per hectare)*
Farm rent	97.40
Soil preparation	77.92
Mechanized planting	77.92
Clearfield system	389.61
Garlon herbicide	8.20
Glyphosate herbicide	23.38
Ferti-rice starter (16-30-7)	84.90
Pest control (Nomolt)	10.90
Hand labor for applications	79.09
Pest control (Muralla)	10.26
2nd Fertilization w/Nitroxtend (46-0-0)	98.70
Ferti-rice reinforcement (23-0-3)	83.77
Fungicide (Jewel)	106.49
Adherent	8.44
Harvest	129.87
Insurance	129.87
Transportation	103.9
Others	32.47
Total	1,558.17

*Data as of December 30, 2019; US$=7.7 Quetzales

Source: ARROZGUA, 2020

Consumption and Residual:

Consumption in MY2020/21 is forecast at 134,000 MT, a 2 percent increase compared to MY2019/2020. The estimate for consumption in MY2019/20 is 131,000 MT, 4 percent higher than the revised 2018/19 estimate. The increase is mostly due to local purchase of grains, including rice, by the Government of Guatemala for emergency food aid assistance programs implemented in 2020 to support poor families affected by the COVID-19 pandemic. Guatemalan per capita consumption of rice in MY2018/2019 was 6.38 Kg, and has been increasing annually by 2 to 3 percent. Guatemalans are slowly increasing their consumption as their diets diversify and become less dependent on corn tortillas, the main staple food.

Guatemala has 17 active mills that process paddy rice into white and pre-cooked rice, independent of the origin of the rice. The average milling rate in Guatemala remains stable at 70 percent, though some of the more updated mills make up to 85 percent. On average 70 percent of the milled rice is for human consumption, though some of the broken rice is used in the beer and juice industries (for making a drink called horchata), and soups. The rice bran goes to the feed industry, and the rice husks are used for bedding in the poultry sector. Figure 3 shows a rice mill in Guatemala. Guatemala has 33 registered rice importers that take the paddy rice to the 17 mills.

Figure 3
Guatemalan Rice Mills

Source: ARROZGUA, 2020

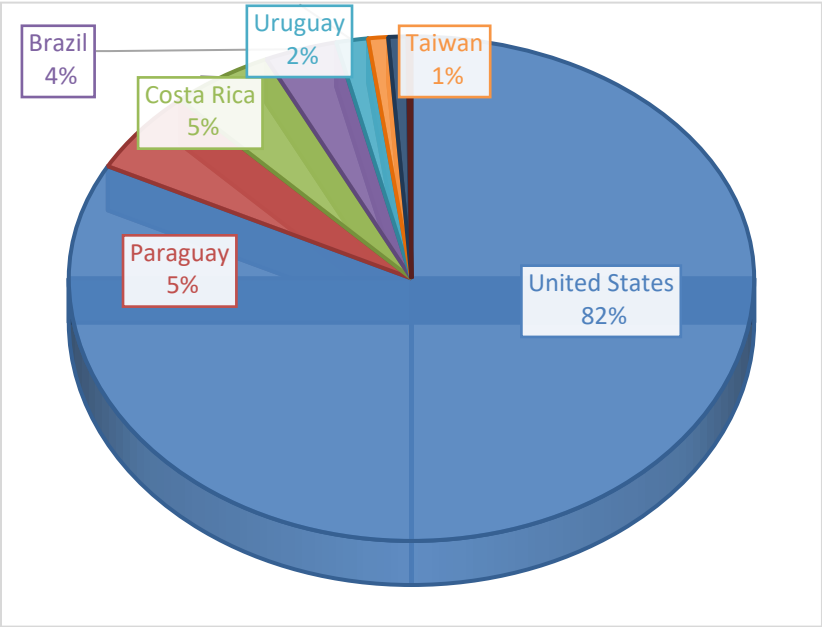
Trade:

Guatemala is a net rice importer. For MY2020/21, Guatemala is forecast to import 116,000 MT, 3 percent more than the estimate for MY2019/20, as rice consumption increases and the country is becoming more dependent on imports as domestic production declines. The MY2019/20 estimate for rice imports is 7 percent higher than the previous estimate because of additional imports under CAFTA-DR and WTO quotas that were opened to

avoid a potential scarcity of rice during the COVID-19 pandemic. Imports in MY2018/19 were 104,000 MT, 4 percent above the previous estimate. The United States continues to be the main supplier of rice, of which 96 percent is rough and 4 percent milled. Under CAFTA-DR, the tariff-rate-quota (TRQ) in CY2021 will be 93,800 MT for rough rice and 18,000 MT for milled rice, with an out-of-quota tariff of 8.78 percent. In CY2019 rough rice quotas were filled at 98 percent and milled rice at about 4 percent. In CY2020, TRQs are 91,000 MT for rough rice and 17,500 for milled rice. TRQs for rice will be phased out by 2023, Year 18 of the agreement, after starting with a 29.2 percent tariff.

Graph 1 shows the market share of imported rice in Guatemala. The United States has 82 percent of the market for rough and milled rice. In CY2019, the main supplier of broken rice was Costa Rica, with 8,000 MT and 4 percent of the market share.

Graph 1
Guatemalan Market for Rice Imports in CY2019



Source: USDA Chart of Global Exports to Guatemala, based on Trade Data Monitoring information, 2020

Smuggled contraband grain and food imports are a serious problem for the country. ARROZGUA estimates that at least 1,000 MT of rice per month enters the country illegally from Mexico, which is equivalent to roughly 67 percent of the rice produced in the country. The price of the contraband milled rice from Mexico is 25 percent cheaper than the price for domestic rice. This disrupts markets, and especially affects the small farmers, forcing them to switch to other crops. This phenomenon is causing the steady decline in domestic rice production area. The contraband rice is present in the departments bordering Mexico, and can be identified by the packaging and volumes that are different from the Guatemalan packaging.

Table 3 shows rice tariffs applied for countries with negotiated tariffs and quotas in existing free trade agreements (FTA) with Guatemala. Overall, CAFTA-DR is the main FTA that applies rice, with quotas increasing by 5 percent annually, to be phased out completely by 2023. Rice for planting has a 0 tariff for both the United States and Panama, and broken rice is under the CAFTA-DR TRQ, except with the Dominican Republic, which has a 0 tariff.

Table 3
Guatemalan Tariffs for Rice

HS Code	Product Description	Out-of-Quota	United States (CAFTA-DR) In Quota/Out of Quota Tariff			Dominican Republic	EU	Panama
			2019	2020	2021			
10.06.10.10	Rice for Planting	14.7	0	0	0	14.7	4.7	0
10.06.10.90	Paddy or Rough	14.7	0/19.56	0/14.67	0/8.78	14.7	14.7	14.7
10.06.20.00	Husked Rice (brown)	14.7	0/19.56	0/14.67	0/8.78	14.7	14.7	14.7
10.06.30.00	Semi-Milled or Wholly Milled including glazed or polished	14.7	0/19.56	0/14.67	0/8.78	14.7	14.7	14.7
10.06.30.90	Others	14.7	0/19.56	0/14.67	0/8.78	14.7	14.7	14.7
10.06.40.00	Broken Rice	14.7	0/19.56	0/14.67	0/8.78	0	14.7	14.7

Source: Ministry of Economy (MINECO) and Tax Superintendence (SAT)

Stocks:

Imported rice is taken to the mill, packed, and sold. Small producers sell to intermediaries, which take the rice to the mill to sell it. Except for some bags that may be kept temporarily at warehouses for short term distribution, the Government of Guatemala does not manage rice stocks.

Policy:

MAGA has a genetic improvement program for rice, which has generated varieties to improve yield, fungus tolerance, and milling and culinary qualities including grain biofortification. Since the program focuses on food security, small farmers are the main users of these materials. Aside from the research and development done by the Institute of Agricultural Science and Technology (ICTA), farmers do not receive additional support from the government, though they have requested it in the form of government guaranteed credit lines, crop insurance, and irrigation.

When CAFTA-DR was negotiated, rice received protection for 18 years, starting with a 29.2 percent tariff and quotas of 54,500 MT for rough rice and 10,500 MT for milled rice. All tariff cuts are backloaded, as the cuts at the beginning of the implementation period were lower, to be increased at the end of the implementation period; safeguards are available for out-of-quota imports.

Marketing:

Marketing strategies in Guatemala include joint effort between ARROZGUA and USA Rice. Given the low per capita consumption of rice in Guatemala, the whole marketing strategy is aimed at increasing consumption by teaching consumers how to cook rice. ARROZGUA and USA Rice have a School Nutrition Program (see Figure 4) designed to teach cooks at public schools how to prepare rice. The benefit of this strategy is that most of these cooks are mothers who volunteer to take shifts every week to prepare school meals, so they can also apply what they learned at home.

Figure 4

Rice Promotion Strategy in Guatemala

Source: ARROZGUA, 2020

In addition, there is a publicity campaign designed to increase sales of U.S. rice in Guatemala. A new updated logo and slogan for the 2020 campaign (see Figure 5) was adopted and aims to increase consumption at school and home. The publicity includes a radio program targeting rice buyers at supermarkets, letting them know that their rice purchases will support the school nutrition program. The slogan is “USA rice, good nutrition”.

Figure 5

2020 Rice Logo and Slogan Publicity in Guatemala

Source: ARROZGUA, 2020

The marketing campaign includes sampling and promotional materials as well as teaching consumers at markets, wholesalers, and corner stores how rice can be easily prepared for daily meals (see Figure 6).

Figure 6

Rice Sampling and Promotion in Guatemala

Source: ARROZGUA, 2020

The campaign also shares rice recipes and offers a diploma to housewives and cooks who attend six training classes. USA Rice also participates in USDA's Sabor USA marketing activity, which promotes various U.S. food products. In 2019 the U.S. Ambassador in Guatemala joined the Foreign Agricultural Service staff in the preparation of the famous giant paella, shown in Figure 7. These giant paellas are also prepared in other parts of the country for special national events.

Figure 7

Sabor USA in Guatemala Promoting Rice Consumption

Source: ARROZGUA, 2020

As a rule of thumb, Guatemala establishes the rice quality standards based on the ratio of broken rice. The highest quality is 95/5 which has 5 percent broken rice; 85/15 is the second highest quality; and 70/30 is the third. Table 4 shows the rice quality factors taken into consideration in Guatemala.

Table 4
Rice Quality Criteria in Guatemala

Quality	Humidity (%)	Impurities (%)	Broken (%)	Chalky (%)	Red (%)	Damage* (%)
First	10-12	0-1	5-10	0-3	0	0-3
Second	10-12	2-5	15-20	3-10	0	3-10
Third	10-12	>5	>20	>10	>3	>10

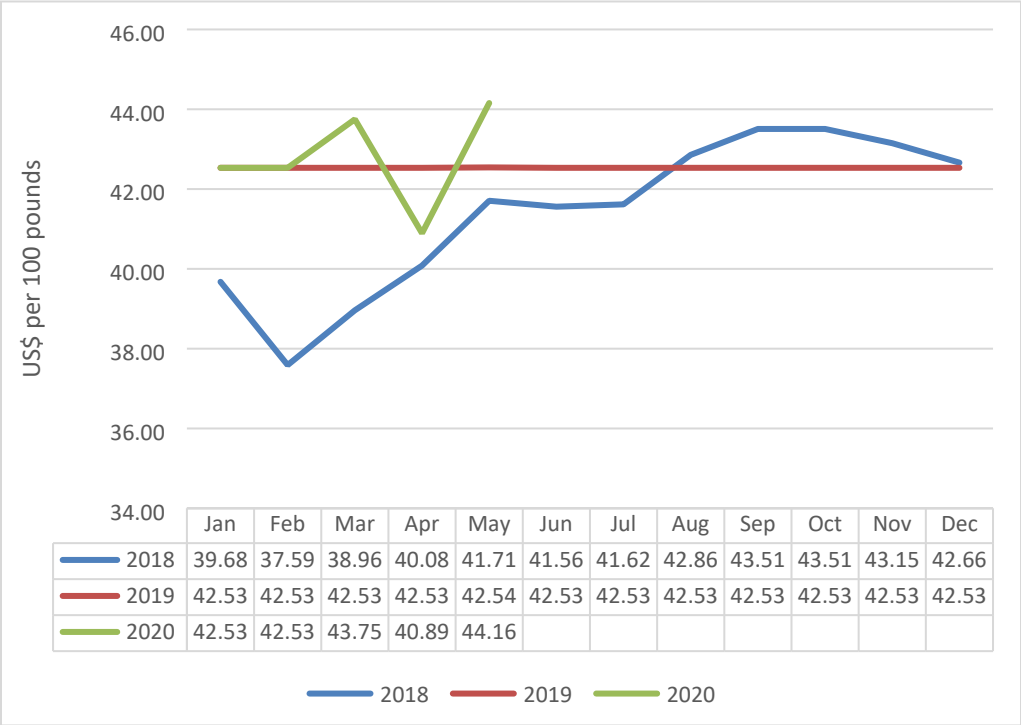
*Total damage is the sum of bitten rice, fungus damage, heating, dubious seed, and fermented grains.
Source: DIPLAN/MAGA

The Guatemalan harvest occurs from August to January. The rest of the year, the rice supply comes mostly from imports. The historic wholesale prices for first quality rice is shown in Graph 2. Rice prices were 5 to 10 percent lower during the first half of 2018, while prices in 2019 were flat, resulting from previous negotiations between ARROZGUA and the Government of Guatemala to offer price stability to consumers. Prices in 2020 have fluctuated but have been increasing, mostly from the higher demand due to the Guatemalan food aid programs during the COVID-19 "state of calamity", and also reflect global rice price levels. The programs include take-home rations for students under the school feeding programs, as schools were closed in March and will be closed until the end of CY2020. The other take-home rations are offered as part of a program to help poor families, both in rural and urban areas. To address the need for grains, Guatemala opened a WTO quota of 125,000 MT for paddy rice, 15,000 for milled rice, 10,000 for broken rice, and 2,000 for brown rice. These quotas will certainly impact the market if they are filled, since CAFTA-DR quotas roughly grow by 2,500 MT per year.

The average wholesale price for first quality milled rice in May 2020 was $44.16 per 100 pounds and is expected to be 4 percent above CY2019 prices. As shown in Graph 2, the average reported retail price was $1.17/Kg, 22 percent above the wholesale price.

Graph 2

Historical Milled Rice (1st quality) Prices at "La Terminal" Wholesale Market in Guatemala



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	39.68	37.59	38.96	40.08	41.71	41.56	41.62	42.86	43.51	43.51	43.15	42.66
2019	42.53	42.53	42.53	42.53	42.54	42.53	42.53	42.53	42.53	42.53	42.53	42.53
2020	42.53	42.53	43.75	40.89	44.16							

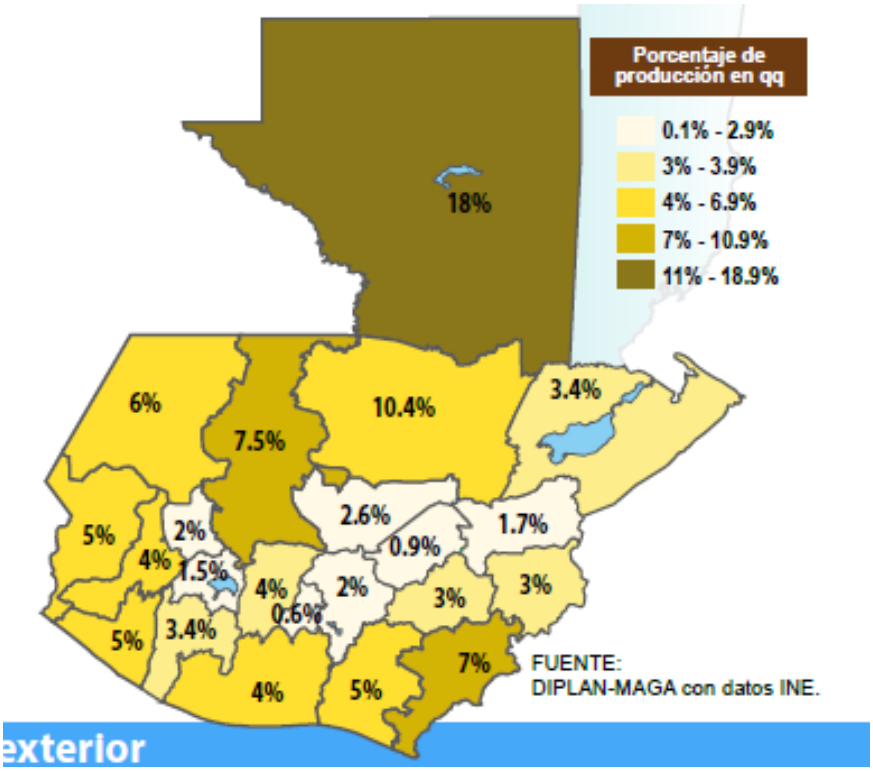
Source: DIPLAN, MAGA, 2020

Corn

Production

In MY2020/2021 harvested area is forecast to be 930,000 hectares, a 3 percent increase compared to MY2019/2020. Planted area in MY2019/2020 is estimated at 905,000 hectares, 4 percent higher than the previous estimate. The forecasted increase in harvested area in MY2020/2021 increases production to 1.76 million MT, 3 percent higher than MY2019/2020, and 4 percent higher than the previous estimate. MY2018/2019 closed with 925,000 hectares and 1.71 million MT, 6 percent higher than the previous estimated area and the same production. The harvested area in Peten, the grain basket of the country, continues expanding. Figure 8 shows the contribution of each department to the total national production. Peten, the northern region of the country, produces at least 18 percent of the harvest. Of the 80,500 hectares in Peten, 10,500 are planted with high yield hybrids. The main producing regions are in southern Peten, such as Las Cruces and Sayaxche.

Figure 8
Corn Production by Department in Guatemala



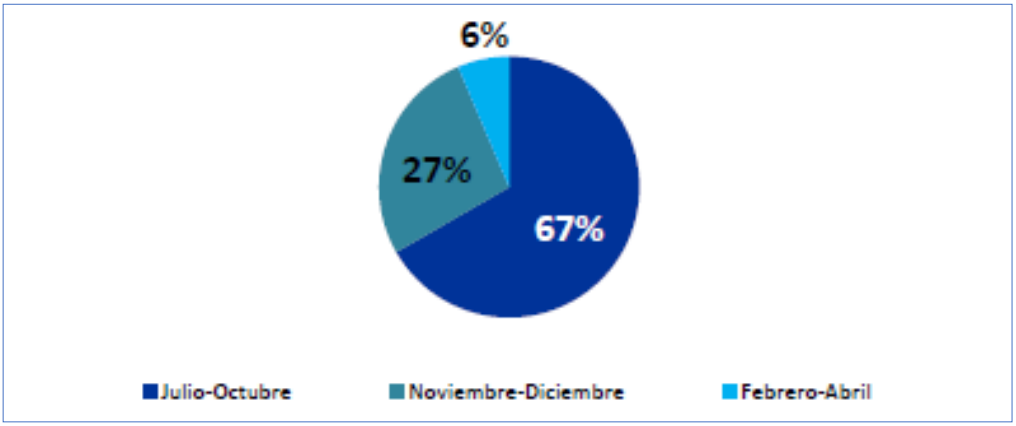
Source: DIPLAN/MAGA, 2019

Production in MY2020/2021 is responding to improved market prices combined with increased local purchases by the Government of Guatemala for its food aid programs, which provide staples to vulnerable families whose conditions worsened as a result of the COVID-19 pandemic. Yields are expected to decrease from 1.82 MT/Ha to 1.80 MT/Ha in MY2019/2020 due to flooding in the Peten region, where soils are alkaline and have poor permeability. Small producers (those with less than 0.5 MT/Hectare) produce a large share of the national harvest yet produce at the subsistence level, lowering the average national yield. They do not have access to technology, rely on rainfall and local corn seed, and have little to no agricultural inputs or adequate storage capacity.

The corn production cycle goes from May to March. The first and most important harvest (*Primera)* yeilds 67 percent of the total annual harvest and runs from August to October. The second harvest (*Postrera)* represents 27 percent of the total national harvest and takes place from November to March. Finally, the late harvest (*Apante)* occurs from January to February and represents about 6 percent of the total harvest (see Graph 3). The period from April to June is when imports are needed to ensure food security in Guatemala, and during this

time, imports mostly come from the United States and Mexico. Production in MY2019/2020 is estimated to decrease by 2 percent from MY2018/2019 due to losses in the dry corridor during the first harvest season.

Graph 3
Primera, Postrera, and Apante Corn Harvest Season
Production in Guatemala



Source: DIPLAN/MAGA, 2019

Corn continues occupying at least 40 percent of total agricultural land in Guatemala, with harvested areas depending on the season and corn varieties. Commercial production areas in Guatemala have grown to 395,000 hectares, with an average yield of 80 MT/hectare. These areas are distributed in the highly productive region of Ixcan (in Quiche Department) and Las Cruces and Sayache in Peten. The average size farms in the commercial areas are 70-140 hectares. Very productive corn can also be found on the south coast, especially in La Maquina, Suchitepequez, where corn is mostly produced with irrigation during the dry season, and yields reach up to 100 MT/hectare. Production costs in MY2019/2020 are reflected in Table 5.

Table 5
CY2020 Average Hybrid Corn Farm Gate Production Costs
in Non-Mechanized Farms in Guatemala Utilizing Hybrid Seed

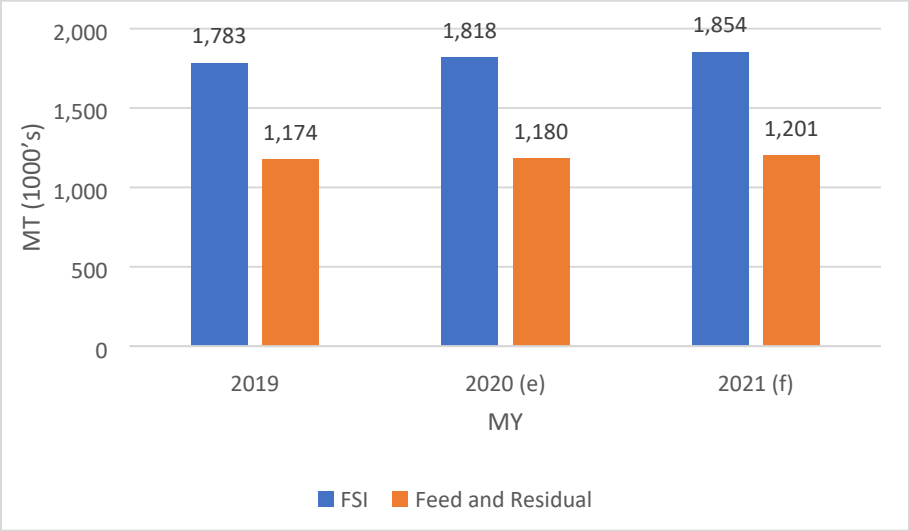
Activity	Costs (US$/per hectare)*
Farm rent	109.09
Soil preparation	54.55
Hand labor	240.45
Agricultural Inputs	311.64
Total Direct Costs	715.73
Total Indirect Costs	183.40
Total	899.13
Average yield	*6 TM/Hectare*
Cost per MT	*US$149.86/MT*

*Data as of May 2020, US$=7.7 Quetzales, Source: ANAGRAB, 2020

Consumption:

Guatemala is relatively self-sufficient in white corn but is a net importer of yellow corn, which is used in animal feed. Corn is Guatemala's main staple food. There is a low level of diet diversification as a result of widespread poverty, which is expected to worsen as a result of the economic contraction related to the COVID-19 pandemic. Graph 4 shows corn consumption in MY2018/2019, MY2019/2020 (estimate) and MY2020/2021 (forecast). Annual Food, Seed, and Industrial (FSI) consumption is forecast at 1.85 million MT in MY2020/2021, 61 percent of total consumption.

Graph 4
Corn Consumption in Guatemala



Source: Post elaboration with 2019 DIPLAN/MAGA estimates and (Trade Data Monitoring) TDM 2020 information

Annual FSI consumption increases every year and is forecast at 132 kilograms per capita in MY2020/2021, compared with an estimated 130 kilograms per capita in MY2019/2020. At least 95 percent of the corn is consumed in the form of tortillas, which is prepared as a corn dough and is a staple in rural areas and a part of the urban daily diet. Corn flour is the most important conr-based industrial product, followed by corn-soy blend beverages, corn chips (prepared with both white and yellow corn), and corn cereals. Presidential Decree 289-2015 makes corn flour fortification with vitamin B, iron, and zinc mandatory. The milling industry in Guatemala has a milling capacity of 3,500 MT per month, and storage capacity of 38,000 MT. Corn in Guatemala has no other industrial use apart from food and feed. Guatemala does not use corn for ethanol or energy production.

As shown in Graph 4, in MY2020/2021 feed is forecast to account for 40 percent of total corn consumption in Guatemala. The Guatemalan feed industry is highly sophisticated, supporting one of the largest poultry industries in Central America. Poultry consumption represents at least 65 percent of meat protein consumption in Guatemala and the industry, including eggs, is growing at 2.8 percent annually. During the first months of the COVID-19 pandemic in Guatemala (March-April 2020), rice and eggs were scarce for a couple of weeks, as

families increased purchases of these products to build their home food reserves. However a few weeks after COVID-19 first hit Guatemala, the market soon stabilized and there was enough rice and eggs available for consumers.

The feed industry in Guatemala continues with a storage capacity of 92,000 MT for yellow corn. Animal feed is mostly composed of yellow corn and soybean meal. The decision to increase the proportion of corn or soybean meal in the feed is purely a financial decision, and varies based on commodity prices, bought with futures.

Trade:

Corn exports have been historically low but are expected to recover in MY2020/2021 to quantities similar to MY2018/2019. In MY2020/2021, imports of corn are expected to increase slightly to 1.34 million MT, following the upward trend of the feed industry and additional imports during the COVID-19 pandemic. In April 2020, the Government of Guatemala opened its WTO quota for an additional 200,000 MT of white corn and 50,000 MT of yellow corn.

Some countries are gaining market access in Guatemala for white corn through FTAs. Increased access has been granted to the United States, Taiwan, Mexico, Dominican Republic, Panama, and Belize. Table 5 shows the in-quota and out-of-quota applied tariffs for corn used in feed and FSI. For yellow corn used for feed, countries with a zero tariff are the United States, Taiwan, Mexico, and Dominican Republic. The partial agreement with Panama has a 7 percent tariff in 2020. The United States has a limited quota for white corn, growing by 2 percent annually in perpetuity. Taiwan, Mexico, and the Dominican Republic have a 0 tariff and Panama has a 4 percent tariff as reflected in Table 6. The CAFTA-DR TRQ for yellow corn was phased out completely in 2014. The TRQs for white corn appear in Table 8.

Table 6
CY2020 Tariffs for Corn Feed and FSI in Guatemala

HS Code	Product Description	Out-of-Quota	U.S.	Taiwan	Mexico	DR	Panama	Belize
10.05.90.20	Yellow Corn	15	0	0	0	0	7	0/15
10.05.90.30	White Corn	20	0/20	0	0	0	4	-
10.05.90.90	Others	15	0	0	0	0	3	-

Source: MINECO and SAT, 2020

Table 8
CAFTA-DR TRQ for White Corn

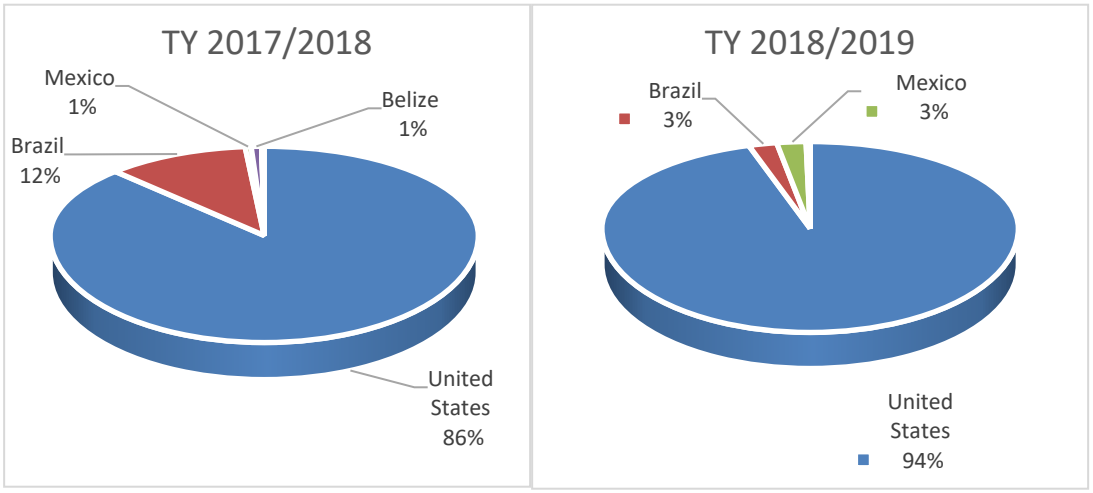
Product Description	2019	2020	2021	2022	2023	2024	2025
White Corn Quota (MT)	25,600	26,000	26,400	26,800	27,200	27,600	28,000
Out-of-Quota Tariff	20%	20%	20%	20%	20%	20%	20%

Source: MAGA, CAFTA-DR Phase-Out

In 2019 the white corn TRQ was filled at 94 percent, with 24,000 MT imported from the United States. Graph 6 compares TY2017/2018 and TY2018/2019 imports. In TY2017/2018 the United States had 86 percent of the

market share. In TY2018/2019 the U.S. share increased to 94 percent, with Brazil competing for 3 percent of the yellow corn and Mexico for 3 percent of the white corn market. Though there is no FTA between Guatemala and Brazil, the yellow corn is imported via the WTO quotas opened each year, which mostly gets allocated to the lower price suppliers in the global market.

Graph 6
TY2018-2019 Comparison for Corn Imports in Guatemala



Source: USDA ellaboration with TDM data, 2020

Stocks:

Stocks in MY2020/2021 are forecast to be 300,000 MT, the same as in MY2019/2020, as the impact of COVID-19 pandemic increases the number of affected families that receive government aid. MY2018/2019 stocks are estimated at 370,000 MT, the same as the previous estimate. During the first half of MY2019/2020, white corn imports from Mexico grew 15 percent.

Roughly 250,000 MT of stocks are in silos operated by the food and feed industry. The government storage capacity is extremely limited (70,000 MT) and serves only to respond to food emergencies. The government has an agreement with the World Food Program (WFP) in Guatemala to support an emergency local harvest purchase program, for which temporary silos have been built. Food rations for a family of five includes 100 pounds of white corn, 30 pounds of black beans, three 800 milliliter bottles of vegetable oil, 5.5 pounds of vitamin A fortified sugar, 6.6. pounds of oats, 10 pounds of white rice, and 1 pound of iodized salt. The Government of Guatemala has dedicated $7.4 million dollars to the food emergency.

Policy:

Despite corn being the main staple in the country, there are limited agricultural policies in place for the crop. MAGA assigns approximately $5 million annually to ICTA for corn breeding to improve genetics, with the aim of increasing productivity through disease resistance and nutrition via biofortification. ICTA supplies small

commercial producers with low cost hybrid seed and subsistence farmers with new varieties. The Government of Guatemala recently hired roughly 320 permanent extension agents (almost one per municipality); but it has not yet dedicated sufficient resources to technology transfer or extension services to have a nationwide impact. There is little development infrastructure, besides limited water reservoirs and irrigation systems repaired in past administrations.

In 2020, Guatemala adopted a harmonized biotechnology regulation with Honduras to create a pathway for approvals of biotech seeds, which will help avoid illegal movement of biotech corn seed from Honduras to Guatemala. Though the regulation is in place, it might take some time for approval of biotech applications, including drought resistant corn. Some Guatemalan corn producers have traveled to Olancho in Honduras, where Honduran farmers shared their positive experience using biotech corn. Honduran farmers who are already using the technology believe that biotech corn may produce higher yields in the hybrid production regions in Guatemala, even higher than in Olancho.

Marketing:

Marketing of corn in Guatemala is mostly in the hands of intermediaries, as the government's storage capacity is limited to food emergency programs. CY2020 farm gate and wholesale prices are shown in Table 9. The difference between the two prices decreased significantly at the end of MY2019/2020. As of May 2020, white corn prices in Guatemala are 51 percent higher than global price levels and yellow corn prices are 40 percent higher. The difference corresponds to various factors, including local supply, poor yields, elevated agricultural input costs, the 12 percent value added tax (VAT) levied when imported and at sale points, and high transportation costs.

Table 9

Farm Gate vs. Wholesale Prices (US$/MT) for White Corn in CY2020

Prices (US$/MT)	Jan	Feb	Mar	Apr	May
Farm Gate	174	174	205	205	225
Wholesale	217	217	255	257	259
Differential	19.8%	19.8%	19.6%	20.2%	13.0%

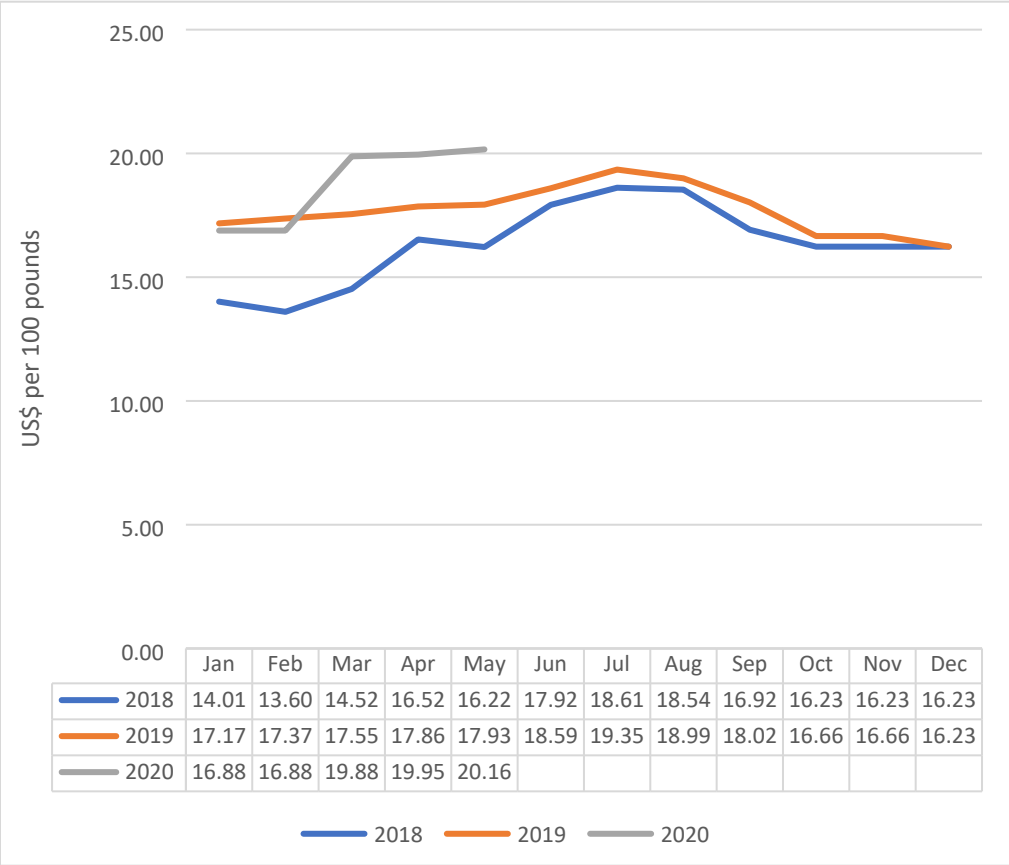
Source: MAGA and National Grain Growers Association (ANAGRAB), 2020

Transporting goods in Guatemala can be challenging. The country has no railroad, so transportation of goods relies on highways, paved roads, and dirt roads, using pickups and smaller trucks. Only 45 percent of roads are paved. Guatemala has one paved and one dirt road kilometer per inhabitant, compared to 8.7 in Costa Rica and 20.5 in the United States. But more cars are using these roads, and so traffic is a problem in some areas. As a result, the average speed in Guatemala dropped from 36 to 17 mile per hour in the past 20 years, increasing inland transportation costs. The higher costs negatively impact corn prices in the country, resulting in prices that are 44 percent higher in the highlands of Guatemala when compared to the lowland commercial areas.

Corn in Guatemala is sold in wholesale markets in 100-pound bags. MAGA and the Consumer Attention Direction (DIACO) monitor prices at three major markets for wholesale reference pricing and in supermarkets

and corner stores for retail price data. As shown in Figure 9, prices are higher during the June-August period, when reserves are low. On average, prices in CY2019 were 8 percent higher than the previous year and in CY2020 prices are estimated to be 6 percent higher.

Figure 9
Guatemalan Historical Monthly Wholesale Market Prices for White Corn



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018	14.01	13.60	14.52	16.52	16.22	17.92	18.61	18.54	16.92	16.23	16.23	16.23
2019	17.17	17.37	17.55	17.86	17.93	18.59	19.35	18.99	18.02	16.66	16.66	16.23
2020	16.88	16.88	19.88	19.95	20.16							

Source: DIPLAN/MAGA/ANAGRAB

At retail, both white and sweet yellow corn are sold on the cob. As of April 2020, it was sold at $0.28 per pound. Corn flour (in the form of ready to prepare corn dough for tortillas) is an important retail product in markets and supermarkets. In rural areas, harvested corn is crushed at home to prepare tortillas or taken to small mills available nationwide. Corn flour is sold in various sizes; in May 2020 they cost $3.12 for 2 Kg, $17.53 for 25 pounds, and $29.87 for 50 pounds. Brands vary as more local brands appear on the market, but the most common brands at the national level are Maseca, Oro Maya, Del Comal, and Suli.

Corn in Guatemala is sold as first or second quality, based on the humidity content, impurities, broken grains, and damaged grains, as shown in Table 10.

Table 10

Corn Quality Criteria in Guatemala at Wholesale Markets

Corn	Quality	Humidity (%)	Impurities (%)	Broken (%)	Damage* (%)
White	First	12-14	0-1	0-2	0-1
	Second	15-18	1-3	2-5	2-5
Yellow	First	12-14	0-1	0-1	0-3
	Second	15-17	2-5	2-5	3-10

*Total damage is the sum of bitten grains, broken, immature, fungus damage, and damaged grains.

Source: DIPLAN/MAGA

PS&Ds

Rice

Rice, Milled	2018/2019		2019/2020		2020/2021	
Market Year Begins	Oct 2018		Oct 2019		Oct 2020	
Guatemala	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	11	5	11	5	11	5
Beginning Stocks (1000 MT)	0	0	0	2	0	0
Milled Production (1000 MT)	24	23	24	19	24	18
Rough Production (1000 MT)	34	33	34	27	34	26
Milling Rate (.9999) (RATIO)	7000	7000	7000	7000	7000	7000
MY Imports (1000 MT)	100	104	104	112	106	116
TY Imports (1000 MT)	100	100	100	109	100	108
TY Imp. from U.S. (1000 MT)	79	81	0	85	0	89
Total Supply (1000 MT)	124	127	128	131	130	134
MY Exports (1000 MT)	0	0	0	0	0	0
TY Exports (1000 MT)	0	0	0	0	0	0
Consumption and Residual (1000 MT)	124	127	128	131	130	134
Ending Stocks (1000 MT)	0	2	0	0	0	0
Total Distribution (1000 MT)	124	127	128	131	130	134
Yield (Rough) (MT/HA)	3.0909	6.6	3.0909	5.4	3.0909	5.2

(1000 HA) ,(1000 MT) ,(MT/HA)
MY = Marketing Year, begins with the month listed at the top of each column
TY = Trade Year, which for Rice, Milled begins in January for all countries' TY 2020/2021 = January 2021 - December 2021

Corn

Corn	2018/2019		2019/2020		2020/2021	
Market Year Begins	Jul 2018		Jul 2019		Jul 2020	
Guatemala	USDA Official	New Post	USDA Official	New Post	USDA Official	New Post
Area Harvested (1000 HA)	870	925	870	905	0	930
Beginning Stocks (1000 MT)	459	459	367	370	0	300
Production (1000 MT)	1680	1673	1680	1706	0	1758
MY Imports (1000 MT)	1282	1198	1400	1222	0	1300
TY Imports (1000 MT)	1224	1256	1400	1281	0	1143
TY Imp. from U.S. (1000 MT)	1185	1185	0	1209	0	0
Total Supply (1000 MT)	3421	3330	3447	3298	0	3358
MY Exports (1000 MT)	4	3	5	0	0	3
TY Exports (1000 MT)	2	1	5	1	0	1
Feed and Residual (1000 MT)	1550	1174	1600	1180	0	1201
FSI Consumption (1000 MT)	1500	1783	1550	1818	0	1854
Total Consumption (1000 MT)	3050	2957	3150	2998	0	3055
Ending Stocks (1000 MT)	367	370	292	300	0	300
Total Distribution (1000 MT)	3421	3330	3447	3298	0	3358
Yield (MT/HA)	1.931	1.8086	1.931	1.8851	0	1.8903

(1000 HA) ,(1000 MT) ,(MT/HA)
MY = Marketing Year, begins with the month listed at the top of each column
TY = Trade Year, which for Corn begins in October for all countries' TY 2020/2021 = October 2020 - September 2021

Attachments:

No Attachments