

MAURITIUS CANE INDUSTRY AUTHORITY

MAURITIUS SUGARCANE INDUSTRY RESEARCH INSTITUTE

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SUGAR CANE CROP 2021

Status: End May 2021

1. CLIMATE

1.1 Rainfall (Tables 1a, 1b, Figure 1)

Rainfall recorded over the sugarcane areas during the month of May 2021 was below normal with an island average of 112 mm, representing 69% of the long-term mean (LTM) of 162 mm. Sector-wise, rainfall was lagging behind the respective LTM of the month with 37 mm in the North, 126 mm in the East, 159 mm in the South, 22 mm in the West and 166 mm in the Centre, representing 42%, 61%, 81%, 55% and 86% in the respective sectors.

Cumulative rainfall for the period October 2020 to May 2021 amounted to 844 mm in the North, 1831 mm in the East, 1917 mm in the South, 522 mm in the West and 2034 mm in the Centre. These amounts represented 84%, 95%, 102%, 64% and 108% in sectors North, East, South, West and Centre respectively. The average of 1545 mm for the island represented 96% of the long-term mean for the same period.

Table 1a. Rainfall (mm) for the month of May for crops 2020, 2021 and the long term mean (LTM)

	North	East	South	West	Centre	Island
2020	30 (34)	101 (49)	114 (58)	3 (8)	98 (51)	81 (50)
2021	37 (42)*	126 (61)	159 (81)	22 (55)	166 (86)	112 (69)
LTM	89	207	197	40	194	162

* figures in brackets are % of LTM (1981-2010)

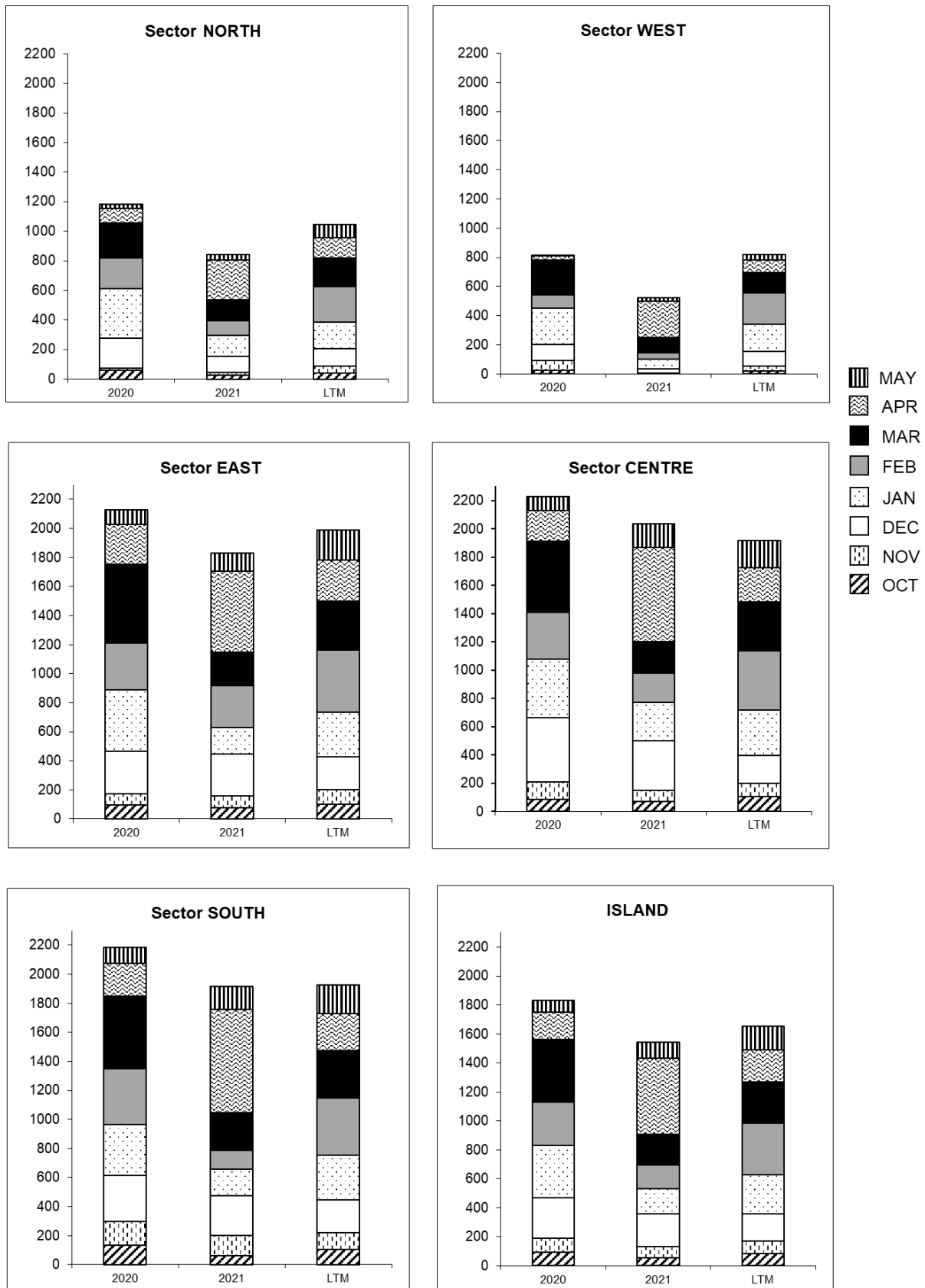
Table 1b. Cumulative rainfall (mm) from October 2020 to May 2021 for crop 2021 compared to that of crop 2020 and the LTM

	North	East	South	West	Centre	Island
2020	1185 (114)	2127 (107)	2187 (100)	815 (102)	2229 (118)	1833 (106)
2021	844 (84)*	1831 (95)	1917 (102)	522 (64)	2034 (108)	1545 (96)
LTM	1045	1993	1926	820	1919	1651

* figures in brackets are % of LTM

[Source: Mauritius Meteorological Services]

Figure 1. Monthly rainfall (mm) for the period October 2020 to May 2021 for the 2021 crop compared to the corresponding period of the 2020 crop and to the long term mean (LTM).



1.2 Air Temperature (Table 2)

The maximum and minimum temperatures as well as temperature amplitude, recorded during the month of May 2021 on MSIRI agro-meteorological stations, are given below.

Table 2. Maximum and minimum air temperatures recorded on MSIRI agro-meteorological stations in May 2021

Stations	Maximum (°C)		Minimum (°C)		Amplitude (°C)	
	May 2021	DevN*	May 2021	DevN*	May 2021	DevN*
Ferret	27.7	-0.4	21.4	+2.6	6.3	-3.0
Réduit	25.3	+0.2	18.4	+0.4	6.9	-0.2
Belle Rive	24.2	-0.6	18.0	+1.4	6.2	-2.0
Union Park	25.8	+1.5	19.5	+1.6	6.3	-0.1

* Deviation from the Normal (1981-2010)

Mean maximum temperature during May 2021 was comparable to the normal at Réduit, exceeded the normal at Union Park by 1.5 °C, and was below normal at the other two stations. Mean minimum temperature was above normal at all stations, the difference ranging from 0.4 °C at Réduit to 2.6 °C at Ferret. The resulting mean amplitude was comparable at Union Park but was lagging behind the normal at the other three stations. Generally, high temperature amplitude is conducive to optimum sucrose accumulation.

1.3 Sunshine (Table 3)

Data from the MSIRI agro-meteorological stations showed that sunshine hours during May 2021 were above normal at all four stations. Recorded bright sunshine exceeded the normal by 11% at Ferret, 2% at Réduit, 5% at Belle Rive and 19% at Union Park.

Table 3. Sunshine duration (h) recorded on MSIRI agro-meteorological stations in May 2021

Station	May 2021	Normal	% of Normal
Ferret	263	238	111
Réduit	221	217	102
Belle Rive	215	204	105
Union Park	193	162	119

1.4 Crop Water Satisfaction Index

The Crop Water Satisfaction (CWS) gives a measure of the amount of evapotranspiration actually effected by the crop compared to the potential amount that the crop could have evapotranspired under specific soil and climatic conditions. The analysis of CWS is a good complement to the analysis of the other climatic variables for the different sectors of production. The use of CWS is more meaningful when computed over the whole crop cycle (12 months under local conditions).

For crop 2021, CWS was computed from daily rainfall and evapotranspiration data for an L soil at Réduit. With climatic data available up to May 2021, CWS was computed only for the early-harvested crop (from July to August). Crop water requirements were not met during the tillering phase (September till November 2020) with a CWS of 11% and the initial elongation phase (December 2020 to February 2021) with a CWS of 60%. However, CWS was attained and remained relatively high (90%) during the rest of the growth phase over the period March up till May 2021. Therefore, early-harvested crop in the rainfed zone of the L soils at Réduit suffered from water stress condition during both the tillering phase and the initial elongation phase.

2.0 STALK HEIGHT

Cane growth was assessed during the last week of May 2021 in the 48 sites representative of the five sugar cane sectors of the island. These sites cover the various agro-climatic zones, varieties under cultivation and stage of development of the crop. The measurements were compared to those of the corresponding period in May 2020 and to the normal, referred to as the mean of the five best cane yielding crops during the period 2011 to 2020.

2.1 Stalk elongation (Table 3a)

Stalk elongation during May 2021 stood at 16.1 cm in the North, 13.8 cm in the East, 22.9 cm in the South 19.3 cm in the West and 12.3 cm in the Centre. These figures were higher than those recorded during the corresponding period in 2020. For the same period, growth exceeded the normal in the South and Centre by 4.2 cm and 4.0 cm, respectively. In the other sectors, it lagged behind the normal by 6.5 cm in the North, 2.2 cm in the East and 1.8 cm in the West. The island stalk elongation of 17.6 cm in May 2021 was higher than the 13.5 cm recorded in May 2020 but lagged behind the normal by 1.5 cm (8.1%).

Table 3a. Stalk elongation during the month of May 2021

Sectors	Stalk elongation (cm) during May			May 2021 as % of	
	2021	2020	Normal	2020	Normal
North	16.1	9.2	22.6	175.0	71.4
East	13.8	13.0	16.0	106.2	86.3
South	22.9	18.3	18.7	125.1	122.6
West	19.3	12.4	21.1	155.6	91.6
Centre	12.3	10.1	8.3	121.8	148.2
Island	17.6	13.5	19.1	130.5	91.9

2.2 Cumulative Elongation (Table 3b)

Cumulative elongation over the period end-December 2020 to end-May 2021 amounted to 161.7 cm in the North, 179.0 cm in the East, 187.5 cm in the South, 157.5 cm in the West and 152.1 cm in the Centre. These cumulative growths were below those of 2020 in sectors North, West and Centre, comparable in the East but higher in the South. For the same period, growth was higher than the normal in the South and Centre but lower than the normal in the other sectors. Island-wise, the cumulative elongation of 173.4 cm lagged behind those of the 2020 crop (175.6 cm) by 1.2% and the normal (182.3 cm) by 4.9%.

Table 3b. Cumulative elongation at end-May 2021.

Sectors	Cumulative elongation (cm) at end- May			End-May 2021 as % of	
	2021	2020	Normal	2020	Normal
North	161.7	171.6	189.7	94.2	85.2
East	179.0	179.9	181.9	99.5	98.4
South	187.5	184.5	184.2	101.6	101.8
West	157.5	159.7	181.7	98.6	86.7
Centre	152.1	155.6	150.2	97.8	101.3
Island	173.4	175.6	182.3	98.8	95.1

2.3 Total stalk height (Table 3c and Figure 2)

At end-May 2021, total stalk height reached 180.7 cm in the North, 232.1 cm in the East, 229.4 cm in the South, 186.0 cm in the West and 193.3 cm in the Centre, giving an island average of 212.6 cm. These values, compared to the corresponding period in 2020, were inferior by 30.7 cm in the North, 13.6 cm in the West and 6.1 cm in the Centre but was higher in the East and South by 11.8 and 11.6 cm, respectively. Compared to the normal, total stalk height in May 2021 was still lagging by 33.8 cm in the North and 30.2 cm in the West. In the other sectors, it was comparable in the Centre but exceeded the normal by 2.8 cm in the East and 7.5 cm in the South.

At island level, the total stalk height of 212.6 cm at end of May 2021 was comparable to that of the corresponding period in 2020, but was lagging behind the normal by 7.3 cm (3.3%).

Table 3c. Total stalk height at end-May 2021.

Sectors	Stalk height (cm) at end-May			End-May 2021 as % of	
	2021	2020	Normal	2020	Normal
North	180.7	211.4	214.5	85.5	84.2
East	232.1	220.3	229.3	105.4	101.2
South	229.4	217.8	221.9	105.3	103.4
West	186.0	199.6	216.2	93.2	86.0
Centre	193.3	199.4	193.2	96.9	100.1
Island	212.6	214.0	219.9	99.4	96.7

3. SUCROSE ACCUMULATION (Tables 4a and 4b)

Sucrose content during the last week of May 2021 was assessed in cane samples taken from miller-planters' land in all factory areas and covering the main cultivated varieties. The average Pol % cane (*richesse*) was calculated on the basis of area under cultivation of each variety in the different factory areas of each sector. The results were compared with those of the last two years.

Table 4a. Average Pol % cane (richesse) in different varieties at end-May 2021.

Variety	North	East	South	West	Centre
M 52/78			11.0		10.5
M 703/89		9.1			10.1
R573	9.7	11.3	9.4	7.1	10.1
M 2256/88	8.3	11.2			
R575			9.4	8.3	
M 387/85		10.8	7.8		9.0
M 1246/84	5.2	7.3			
M 1989/99	5.9		7.8		
M 2283/98			9.4		
M 1176/77	7.7	10.2	8.9	8.2	10.0
M 1861/89			8.8		
M 2593/92	6.5	9.1	8.8	7.0	
M 1400/86	5.1	8.8	7.5	6.2	8.9
M 2502/99		9.0			
R579	7.7	7.2	8.0	6.7	8.5
M 1672/90	5.8	6.9	9.1		
R570	5.3	6.5	6.8	5.0	
M 915/05			7.6	8.5	9.1
M 683/99				6.9	
M 216/02			7.9		
M 1561/01			9.3		
M 1256/04			8.4		
M 1002/02				9.8	

The *richesse* at the end of May 2021 reached 6.3% in the North, 8.5% in both the East and South, 6.9% in the West and 9.2% in the Centre. Compared to the corresponding period in 2020, sucrose content at end-May 2021 was lagging behind in all sectors by 3.7° in the North, 0.7° in the East, 1.0° in the South, 2.8° in the West and 0.6° in the Centre. Sucrose content at the end of May, for the present crop, was also lower than that of the corresponding period in 2019 in all sectors except in the Centre.

Table 4b. Pol % cane (richesse) calculated sector-wise at the end of May 2021, compared to corresponding period in 2019 and 2020.

Sectors	MAY		
	2019	2020	2021
North	9.2	10.0	6.3
East	9.2	9.2	8.5
South	9.8	9.5	8.5
West	9.7	9.7	6.9
Centre	9.0	9.8	9.2
Island	9.4	9.6	7.9

Island-wise, the *richesse* of 7.9% recorded at end of May 2021 was inferior to those of the corresponding period in 2020 and 2019 by 1.7° and 1.5°, respectively.

4. CROP 2021

The salient features of the climatic conditions that prevailed during the month of May 2021 were below normal rainfall, abundant solar radiation and below normal temperature amplitude. Overall, the climatic conditions were more favourable to crop growth rather than sucrose accumulation. The CWS computed for the rainfed L soil at Réduit, in the case of the early harvested crop, showed that the crop water requirement was not met during both the tillering and initial stage of elongation phase. However, its crop water need was met in the remaining period of elongation phase up to May 2021. Total stalk height at the end of May 2021 was above normal in sectors East, South and Centre but was still lagging behind the normal by nearly 15% in sectors North and West.

Sucrose content in terms of Pol % cane recorded at the end of May 2021 lagged behind those of 2020 and 2019 in all sectors. Sectors North and West had the lowest sucrose content compared to the other sectors, indicating that the crop was still in the growth phase, except for varieties that had already flowered. However, the situation may change during the remaining five months of maturation and in light of a favourable winter season.

Figure 2. Stalk height at end- May 2021

